

792
The LADIES' Diary:

OR

WOMAN'S ALMANACK,

For the Year of our LORD 1795;

Being the Third after BISSEXTILE, or LEAP-YEAR.

Containing New Improvements in ARTS and SCIENCES,

And many Entertaining PARTICULARS:

Designed for the *Use* and *Di-verse*on of the

FAIR-SEX.

The Ninety-second ALMANACK Published of this Kind.



VIRTUE and SENSE, with FEMALE-SOFTNESS join'd,
(ALL that subdues and captivates Mankind !)
IN BRITAIN'S Matchless FAIR resplendent shine ;
THEY rule LOVE's Empire by a Right Divine :
Justly their Charms the astonish'd World admires,
Whom *Royal CHARLOTTE's* bright Example fires.

L O N D O N :

Printed for the COMPANY of STATIONERS,
And sold by ROBERT HORSFIELD, at their Hall in Ludgate-Street.
[Price stitched, ELEVEN-PENCE.]

<i>Y. of Christ.</i>	<i>Y. since.</i>	<i>Y. of Christ.</i>	<i>Y. since.</i>	
1600	King Charles I. born	195	1714	Q. Ann died, K. Geo. I. succ.
1603	Q. Eliz. died, K. Ja. succ.	192	1715	Rebellion in the north
1603	A great Plague in London	192	1716	A very great frost
1605	Popish Gun-powder Plot	190	1726	Sir Isaac Newton died
1616	Shakspeare the poet died	179	1727	K. Geo. I. died, Geo. II. succ.
1625	K. James died, Cha. I. succ.	170	1739	War against Spain declared
1641	Bloody Irish massacre	154	1739	A very great frost
1642	Sir I. Newton born, Dec. 25	153	1743	A great comet appeared
1649	K. Charles I. beheaded	146	1744	War against France declared
1658	Oliver Cromwell died	137	1745	Rebellion in Scotland
1660	K. Charles II. restored	135	1748	A general peace
1662	Royal Society instituted	133	1750	Westminster bridge finished
1665	Died of the plague 68,586	130	1752	Date and Calendar altered
1666	Great fire in London	129	1756	War against France declared
1666	War against Denmark decl.	129	1760	K. Geo. II. died, G. III. succ.
1667	Peace with Hol. Fr. & Den.	128	1762	American philos. soc. instit.
1672	War against Holland decl.	123	1762	War against Spain declared
1672	Halfpence & Farth. coined	123	1763	Peace with France & Spain
1674	Peace with Holland procl.	121	1765	Otaheite discovered
1679	Habeas Corpus act passed	116	1770	Blackfriars bridge finished
1685	K. Cha. II. died, Ja. II. succ.	110	1772	A revolution in Denmark
1688	Prince of Orange landed	107	1772	A revolution in Sweden
1688	K. James II. abdicated	107	1775	War against America begun
1689	Wm. and Mary crowned	106	1776	America declared independent
1693	Hackney coaches established	102	1778	French treaty with America
1702	K. Wm. died, Q. Ann succ.	93	1778	War against France begun
1702	War against France declared	93	1779	War against Spain begun
1707	England & Scotland united	88	1780	War against Holland begun
1713	Peace with France procl.	82	1783	A general peace

BIRTH-DAYS, [M.S.] and YEARS, of the ROYAL FAMILY
of GREAT BRITAIN.

KING GEORGE III. June 4, 1738	Prince Aug. Fred. Jan. 27, 1733
Prince of Wales, August 12, 1762	Prince Adolph. Fred. Feb. 24, 1734
Duke of York, August 16, 1763	Princess Mary, April 25, - 1734
Duke of Clarence, Aug. 21, 1765	Princess Sophia, Nov. 3, - 1737
Princess Royal, Septem. 29, 1766	Princess Amelia, Aug. 7, - 1739
Prince Edward, Nov. 2, - 1767	Queen Charlotte, May 19, - 1744
Prs. Augusta Sophia, Nov. 3, 1768	Prs. Augusta of Brunsw. Aug. 11, 1738
Prs. Elizabeth, May 22, - 1770	Duke of Gloucester, Nov. 25, 1740
Prince Ernest Augustus, June 5, 1771	

YEARS of BIRTHS of the Principal SOVEREIGN
PRINCES of EUROPE.

Pius VI. Pope - - - 1717	Francis II. Emp. Germ. - 1745
Victor Amade Maria, K. Sardinia 1726	William V. Stadtholder, - 1740
Catherine, Empress of Russia, 1729	Charles, IV. King of Spain, 1744
Stanislaus Aug. King of Poland 1732	Christian VII. K. of Denmark, 1746
Maria, Queen of Portugal - 1734	Ferdinand IV. King of Sicily, 1759
Fred. William, King of Prussia, 1744	Selim III. Grand Signor - 1754
Gustavus IV. King of Sweden, 1778	

Full Moon, 5th, 33m. past 9 morn.
 Last Quarter, 13th, 51m. past 4 morn.
 New Moon, 20th, 9m past 12 night.
 First Quarter, 27th, 3m. past 9 night.

Sun enters $\overline{\text{m}}$
 19d. 11h. 46m.

1	Th	Circumcision	8	53	55	23	0	3	m	6	10
2	F			4	56	22	54	4	23		11
3	S			3	57		49	5	35		12
4	D	2 Sun. after Christmas		3	57		42	6	45		13
5	M	Old Christmas Day		2	58		36	D	rises	F	
6	Th	Epiphany Twelfth-day		1	59		28	5	a	31	15
7	W			0	4	0	21	6	36		16
8	Th	Lucian	7	59		1	13	7	42		17
9	F			58		2	4	8	48		18
10	S			57		3	21	55	9	55	19
11	D	1 Sun. after Epiphany		56		4	46	11	0		20
12	M	Plow Mon. Old N. Y. day		55		5	36	morn			21
13	Tu	Hilary Cam. Term be.		54		6	26	0	4		22
14	W	Orf. Term begins		53		7	16	1	7		23
15	Th			52		8	5	2	12		24
16	F			51		9	20	53	3	16	25
17	S	Old Twelfth Day		49		11	41	4	21		26
18	D	2 S. aft. Epip. Q. Ch. b. d. k.		48		12	29	5	24		27
19	M	[Prisca]		47		13	17	6	23		28
20	Tu	Fabian. Hil. Ter. 1 return		45		15	4	D	sets	N	
21	W	Agnes		44		16	19	50	4	a	57
22	Th	Vin. ent		42		18	37	6	13		2
23	F	Hilary Term begins		41		19	23	7	32		3
24	S			40		20	8	8	50		4
25	D	3 S. a. Epip. Con. of St. Paul		38		22	18	53	10	8	5
26	W			37		23	38	11	26		6
27	Tu	Pr. Aug. F. b. Hilary 2 re.		35		25	23	morn			7
28	W			33		27	7	0	44		8
29	Th			32		28	17	51	2	1	9
30	F	K. Charles I. marr. 1649		30		30	34	3	15		10
31	S			28		32	18	4	24		11

Days	L. of D.	Day Inc.	D. breaks	Tw. ends	Sun East	Cl. bef. S.	7 Stars	So.					
1	7	50	0	6	0	4	41	4	7	8	a	44	
6		58		14	5	58		2	43	6	25		22
11	8	8		24		54		6	46	8	30		0
16		18		34		49		11	49	10	19	7	39
21		32		48		44		16	53	11	51		18
26		46	1	2		38		22	58	13	4	6	56

Full Moon, 4th, 28m. bef.	1 morn.	Sun enters X 18d. 2h. 33m.
Last Quarter, 12th, 8m. past	2 morn.	
New Moon, 19th, 5m. past	1 aftern.	
First Quarter, 26th, 3m. past	5 morn.	

M	W	Sundays, Holidays, &c.	Sun rises	Sun sets	Sun's decl.	D rises & sets	D's Age
1	L	Septuagesima Sunday	7 27	4 33	17 ^s 1	5 m 26	12
2	M	Purification or Candle d.	25	35	16 43	6 20	13
3	Tu	Blasē. Hilary Term 3 ret.	23	37	26	7 2	14
4	W		22	38	8	D rises	15
5	Th	Agatha	20	40	15 50	6 a 25	16
6	F		18	42	31	7 35	17
7	S		16	44	13	8 40	18
8	L	Sexagesima Sunday	14	46	14 54	9 45	19
9	M	Hilary Term 4th return	13	47	34	10 48	20
10	Tu		11	49	15	11 53	21
11	W		9	51	13 55	morn	22
12	Th	Hilary Term ends	7	53	35	0 56	23
13	F	Old Candlemas day	5	55	15	2 1	24
14	S	Valentine	3	57	12 55	3 4	25
15	L	Quinquagesima or Shrove Sunday	1	59	34	4 4	26
16	M		0	5	13	4 59	27
17	Tu	Shrove Tuesday	6 58	2	11 52	5 48	28
18	W	Ash Wednesday, Lent be	56	4	31	6 29	29
19	Th	[Cam. T. divides noon	54	6	10	D sets	30
20	F		52	8	10 48	6 a 29	31
21	S		50	10	27	7 48	32
22	L	Quadr. or 1 Sun. in Lent	48	12	5	9 7	33
23	M		46	14	9 43	10 30	34
24	Tu	St. Matthias, Pr. Adol. Fr. b	44	16	21	11 50	35
25	W	Ember Week	42	18	8 58	morn	36
26	Th		40	20	36	1 6	37
27	F		38	22	14	2 17	38
28	S		36	24	7 51	3 22	39

Days	L. of D.	Day Inc.	D. breaks	Tw. ends	Sun East	Cl. bef. S.	7 Stars
1	9 6	1 22	5 31	6 29	5 4	14' 5"	6 a 33
6	24	40	24	37	9	33	12
11	42	58	16	45	14	41	5
16	10 0	2 16	7	54	20	29	35
21	20	36	4 58	7 3	26	13 59	14
26	40	56	49	12	32	14	4 54

Full Moon, 4th, 10m. past 10 morn.
 Last Quarter, 12th, 4m. past 1 aftern.
 New Moon, 19th, 20m. past 8 morn.
 First Quarter, 26th, 29m. past 1 morn.

Sun enters 8
 19d. 15h. 32m.

1	W		5	33	6	27	4n39	4	m51	
2	Th	<i>Maundy Thursday</i>		31		29	5	2	5	14
3	F	<i>Good Fri. Ric. Bp. of Chi.</i>		29		31	25	5	36	
4	S	<i>St. Ambrose</i>		27		33	48			
5	D	<i>Easter Day Old Lady Day</i>		25		35	6	1	7	41
6	M	<i>Easter Monday</i>		23		37	33	8	47	
7	Tu	<i>Easter Tuesday</i>		21		39	5	9	52	
8	W			19		41	7	8	56	
9	Th			17		43	10	11	5	
10	F			16		44	8		morn	
11	S			14		46	25		5	
12	D	<i>1 S. af. East. Low Sunday</i>		12		48	4	1	4	
13	M			10		0	9	8	2	31
14	Tu			8		2	30	3	10	
15	W	<i>Orf. and Cam. T. begins</i>		6		54	51	3	43	
16	Th			4		56	10	13	4	12
17	F			2		58	34	4	4	
18	S			0		7	0	55	5	6
19	D	<i>2 S. af. East. Alphege</i>	4	58		2	11	16	D sets	
20	M	<i>Easter Term 1 return</i>		57		3	36	8	a 3	
21	Tu			55		5	57	10	3	
22	W	<i>Easter Term begins</i>		53		7	12	17	11	17
23	Th	<i>St. George</i>		51		9	37		morn	
24	F			49		11	57	0	2	
25	S	<i>St. Mark. Pres. M. b. 1776.</i>		47		13	13	16	1	17
26	D	<i>3 Sunday after Easter</i>		45		15	36	1	59	
27	M	<i>Easter Term 2 return</i>		44		16	55	2	34	
28	Tu			42		18	14	14	3	2
29	W			40		20	32	3	27	
30	Th			38		22	51	3	48	

Days	L. of D.	Day Inc.	D. breaks	Tw. ends	Sun East	Cl. bef. S.	7 Stars
1	12 54	5 10	3 33	8 28	6 15	3' 56"	2 2
6	13 14	30	21	40	21	2 27	
11	32	48	6	55	27	1 2	
16	52	6 8	2 54	9 7	33	ca 16	1
21	14 10	26	40	21	39	1 25	
26	30	46	25	37	44	2 23	

Full Moon, 4th, 43m. past 2 morn
 Last Quarter, 12th, 12m. bef. 1 morn.
 New Moon, 18h, 48m. past 3 aftern.
 First Quarter, 25th, 33m. past 2 aftern.

Sun enters II
 zod. 16h. 4m.

1 F	St. Philip and James	4	37	7	23	15	9	4	m	9	12
2 S			35		25		27	4		29	13
3 D	S. af. East. Inv. of Crofs		33		27		45	4		48	14
4 M	Easter Term 3 return		31		29	16	2	D	rises		F
5 Tu			30		30		19	8	a	54	16
6 W	John Ewan. ante Port L.		28		32		30	9		56	17
7 Th			26		34		53	10		56	18
8 F			25		35	17	9	11		50	19
9 S			23		37		25		morn		20
10 D	or Rogation Sunday		21		3		41	0		36	21
11 M	Easter Term 4 return		20		40		57	1		16	22
12 Tu	Old May Day		18		42	18	12	1		50	23
13 W			17		43		27	2		18	24
14 Th	Ascension or Holy Thurs		15		45		41	2		45	25
15 F	Easter Term 5 return		14		46		56	3		9	26
16 S			12		48	19	10	3		34	27
17 D	Sunday after Ascension		11		49		23	4		1	28
18 M	Easter Term ends		9		51		36	D	sets		N
19 Tu	Queen Charl. b. Dunstan		8		52		49	8	a	53	1
20 W			7		53	20	2	10		8	2
21 Th	Ort. Term ends		5		55		14	11		10	3
22 F	Pis. Elisabeth born 1770		4		56		26	11		59	4
23 S			3		57		38		morn		5
24 D	Whit Sunday		1		59		49	0		38	6
25 M	Whit Monday		0	8	0	21	0	1		9	7
26 Tu	Whit Tuesday Aug. Abp 3		59		1		10	1		34	8
27 W	Ember Week Venera. Beae		58		2		21	1		56	9
28 Th	[Ca. T. d. n.]		57		3		30	2		15	10
29 F	King Charles II. restored		56		4		40	2		35	11
30 S			55		5		49	2		54	12
31 D	Trinity Sunday		54		6		58	3		13	13

Days	L. of D.	Day Inc.	D. breaks	Tw. ends	Sun East	Cl. aft. S.	7 Stars So.									
1	14	46	7	2	2	7	9	55	6	50	3	8"	0	a	59	
6	15	4		20	1	5	10	10		55		39			40	
11		20		36		30		33	7	0		56			21	
16		36		52		7		56		4		0			1	
21		50	8	6	0	32	11	38		8		3	50	11	m	42
26	16	2		18	No real Night						12		25			22

Full Moon, 20, 44m. past 7 morn.
 Last Quarter, 9th, 18m. past 2 aftern.
 New Moon, 16th, 31m. past 7 morn.
 First Quarter, 23d, 45m. past 9 night.
 Full Moon, 31st, 53m. past 7 night.

Sun enters ♋
 22d. 11h. 35m.

1	W		3	4	8	15	23	n	7	3	m	6	15
2	Th	Visitation of Virgin Mary	46			14		3		D	rises		F
3	F	Dog Days begin	46			14	22	58		9	a	10	17
4	S	Transf. of St. Martin	47			13		53		9		48	18
5	S	Sun. af. Tr. Old Midf.	48			12		48		10		20	19
6	M		48			12		42		10		47	20
7	Tu	Camb. Comm. Tho. à Bec.	49			11		36		11		12	21
8	W		50			10		29		11		35	22
9	Th		51			9		22		11		58	23
10	F	Cam. Term ends	51			9		15		morn			24
11	S		52			8		7		0		22	25
12	S	Sunday after Trinity	53			7	21	58		0		51	26
13	M	Oxford Act	54			6		50		1		25	27
14	Tu		55			5		41		2		6	28
15	W	Swithin	56			4		32		2		57	29
16	Th		58			2		22		D	sets		N
17	F		59			1		12		8	a	56	1
18	S	Orf. Term ends	4	0				1	9	27			2
19	S	Sunday after Trinity	1	7	59	20		51	9	53			3
20	M	Margaret	2		58			39	10	15			4
21	Tu		4		56			28	10	36			5
22	W	Magdalen	5		55			16	10	54			6
23	Th		6		54			4	11	14			7
24	F		7		53	19		51	11	36			8
25	S	St. James	9		51			39	11	52			9
26	S	Sunday after Trinity	10		50			25	morn				10
27	M	[St. Anne	12		48			12	0	26			11
28	Tu		13		47	18		58	1	0			12
29	W		15		45			44	1	43			13
30	Th		16		44			30	2	34			14
31	F		18		42			15	D	rises			F

Days	L. of D.	Day dec.	D. breaks	Tw. ends	Sun East	Cl. bef. S	7 Stars So.
1	16 30	0 4	No real Night		7 19	3 18"	8 m 54
6	24	10			18	4 13	34
11	16	18			15	59	13
16	4	30			13	5 33	7 53
21	15 52	42			9	55	33
26	40	54	0 44	11 13	5	6 3	13

Last Quarter,	7th, 47m. past	6 after.	Sun enters π 22d. 17h. 59m.
New Moon,	14th, 53m. past	5 after.	
First Quarter,	22d. 26m. past	3 after.	
Full Moon,	30th, 37m. past	6 morn.	

1	S	Lammas Day	4	19	7	41	18	0	8	a	21	15
2	D	Sunday after Trinity		21		39	17	45	8		5	17
3	M			22		38		29	9		16	18
4	Tu			2		30		13	9		39	19
5	W			20		34	16	57	10		2	20
6	Th	Transfiguration of our Lord		2		33		4	11		26	21
7	F	Prs. Ame. b. Na. of Jesus		29		31		24	11		5	22
8	S			31		29		7		morn		23
9	D	Sunday after Trinity		32		28	15	50	0		24	24
10	M	St. Laurence		34		26		32	1		2	25
11	Tu	Prs. Brunf. b. Dog Da. c.		36		24		14	1		49	26
12	W	Pr. Wales b. O. Lam. day		37		23	14	56	2		45	27
13	Th			39		21		38	3		4	28
14	F			41		19		20		fets		29
15	S	Assumption of V. M.		43		17		1	7	a	55	30
16	D	S. a. Tr. D. of York b.		45		15	13	42	8		20	31
17	M			46		14		23	8		41	32
18	Tu			48		12		4	9		1	33
19	W			50		10	12	44	9		21	34
20	Th			52		8		24	9		41	35
21	F	Duke of Clarence b. 1765		54		6		4	10		5	36
22	S			55		5	11	41	10		31	37
23	D	Sunday after Trinity		57		3		24	11		1	38
24	M	St. Bartholomew		59		1		3	11		38	39
25	Tu		5	1	6	59	10	43		morn		40
26	W			3		57		22	0		25	41
27	Th			5		55		1	1		22	42
28	F	St. Augustine		7		53	9	40	2		26	43
29	S	St. J. Baptist beheaded		9		51		18	3		39	44
30	D	Sunday after Trinity		10		50	8	57		D rises		45
31	M			12		48		35	7	a	4	46

Days	L. of D.	Day dec.	D. breaks	Lw. ends	Sun East	Cl. bef. S.	7 Stars
1	15 22	1 12	1 22	10 35	7 0	5' 54"	6 m 49
6	6	28	42	15	6 54	29	59
11	14 48	46	2 0	9 57	50	4 50	11
16	30	2 4	18	40	45	3 56	5 52
21	12	22	33	25	39	2 49	53
26	13 54	40	48	10	34	1 42	10

5.

N^o 92. September hath xxx Days.

11

12
m.

1st Quarter, 5 h 57m. past 11 night.
 New Moon, 13th, 46m. past 6 morn.
 3rd Quarter, 21st, 39m. past 9 morn.
 Full Moon, 28th, 25m. past 4 altern.

Sun enters ♈
 22d. 14h. 32 n.

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1	Th	<i>Gil.</i>	5	14	6	46	8	14	8	a	12	18
2	F	London burnt 1066	16	44	7	52	8	3	1			19
3	Th		18	42	3		9	3	20			
4	F		20	40	8		9	33	21			
5	S		22	38	6	45	10	9	22			
6	D	14 Sunday after Trinity	24	36	23	10	53	23				
7	M	<i>Emurbus</i>	26	34		11	45	24				
8	F	Nativity of Virgin Mary	28	32	5	38	morn	25				
9	W		30	30	18	0	45	26				
10	Th		2	28	4	52	1	53	27			
11	F		4	26	30		3	4	28			
12	S		3	25			4	15	29			
13	D	15 Sunday after Trin.	37	23	3	44	12	15	30			
14	M	<i>Holy-Cross</i>	3	21	2		7	a	14			1
15	Th		41	19	2	5	7	33	2			
16	W	Ember Week	43	17		34	7	54	3			
17	Th	<i>ambert</i>	45	15		11	8	15	4			
18	F		47	13	1	48	8	3	5			
19	S		49	11		24	9	8	6			
20	D	16 Sunday after Trinity	5	9		1	9	42	7			
21	M	St. Matthew	53	7	0	33	10	23	8			
22	Th	King Geo. III. crowned	55	5		14	11	15	9			
23	W		57	3		9	morn	10				
24	Th		59	1		33	0	15	11			
25	F	Old Holy Rood	6	1	5	59	56	1	22	12		
26	S	St. Cyrian	3	5		1	2	2	39	13		
27	D	17 Sunday after Trinity	5	55		43	3	57	14			
28	M		7	53	2	6	Drises	F				
29	Th	St. Michael. Pres. Royal b	9	51		30	6	a	41	16		
30	F	St. Jerome	11	49		53	7	13	17			

30
49
50
11
52
53
15

Days	L. of D.	Day	dec.	D. breaks	Tw. ends	Sun East	Cl. alt. S.	7 Stars	No.					
1	13	32	3	2	3	5	8	54	6	27	0	12	4 m	53
6		12		22		19		40		24	1	50		35
11	12	52		42		32		27		14	3	33		17
16		34	4	0		41		16		8	5	18	3	59
21		14		20		34		5		2	7	2		42
26	11	54		40		4		7		55	9	45		24

Last Quarter, 5th, 15m. past 7 morn.

New Moon, 12th, 21m. past 10 night.

First Quarter, 21st, 11m. past 3 morn.

Full Moon, 28th, 53m. past 1 morn.

Sun enters m
22d. 22h. 34m.

1	Th	Remigius	6	13	5	47	3 ^s 16	7	a	42	18
2	F			15		45	40	8		15	19
3	S			17		43	4	3	8	58	20
4	D	8 Sunday after Trinity		19		41	26	9	50		21
5	M			21		39	49	10	47		22
6	Tu	Faith		23		37	5	12	11	54	23
7	W			25		35	36		morn		24
8	Th			27		33	59	1	3		25
9	F	St. Denys	[day	28		32	6	21	2	13	26
10	S	Ort. and Ca. T. b. O. Mic.		30		30	44	3	23		27
11	D	9 Sunday after Trinity		32		28	7	7	4	32	28
12	M			34		26	30		D sets	N	
13	Tu	Trans. K. Edw. Confessor		36		24	52	6	a	6	1
14	W			38		22	8	15	6	27	2
15	Th			40		20	37	6	50		3
16	F			42		18	59	7	15		4
17	S	Etheldred		44		16	9	21	7	47	5
18	D	10 S. a. Trin. St. Luke		46		14	43	8	25		6
19	M			48		12	10	5	9	12	7
20	Tu			50		10	26	10	7		8
21	W			52		8	48	11	11		9
22	Th			54		6	11	9	morn		10
23	F			55		5	30	0	20		11
24	S		[Crispin	57		3	51	1	35		12
25	D	11 S. a. Tri. K. Geo. 3 acc.		59		1	12	12	2	54	13
26	M	King Geo. III. proclaimed	7	1	4	59	33	4	15		14
27	Tu			3		57	53	5	39		15
28	W	St. Simon and Jude		5		55	13	13	D rises		16
29	Th			7		53	33	6	a	16	17
30	F			9		51	53	6	54		18
31	S			10		50	14	12	7	44	19

Days	L. of D.	Day dec.	D. breaks	Tw. ends	Sun East	Cl. aft. S.	7 Stars So
1	11 34	5 0	4 17	7 42	5 50	10' 22"	3 m 6
6	14	20	28	31	44	11 52	2 48
11	10 56	38	38	21	37	13 14	29
16	36	58	48	11	31	14 22	10
21	16	6 18	57	2	25	15 16	1 52
26	9 58	35	5 6	6 53	19	55	31

Last Quarter, 3d, 40m. past 5 aftern.
 New Moon, 11th, 11m. past 4 aftern. Sun enters ♄
 First Quarter, 19th, 44m. past 6 aftern. 21d. 18h. 51m.
 Full Moon, 26th, 42m. past 11 morn.

1	D	22 S. af. Tri. All Saints	7	12	4	48	14	32	8	a	40	20
2	M	Pr. Edw. b. <i>All Souls</i>	14			46		51	9		46	21
3	Tu	Prs. Sophia b. Mic. T. 1 re.	16			44	15	10	10		56	22
4	W	King William landed	18			42		28			morn	23
5	Th	Powder Plot, 1605	19			41		47	0		6	24
6	F	Mich. Term b. <i>Leonard.</i>	21			39	16	5	1		17	25
7	S		23			37		23	2		25	26
8	D	23 S. af. Tr. Prs. Au. So. b.	24			36		40	3		33	27
9	M	Lord Mayor's day at Lon.	26			34		57	4		40	28
10	Tu		28			32	17	14	5		45	29
11	W	<i>St. Martin</i>	30			30		31		D	fets	N
12	Th	Mic. T. 2 re. Ca. T. div. m.	31			29		47	5	a	19	1
13	F	<i>Britius</i>	33			27	18	4	5		48	2
14	S		34			26		19	6		23	3
15	D	24 Sunday after Trinity	36			24		35	7		7	4
16	M	[<i>Machutus</i>]	37			23		50	7		58	5
17	Tu	<i>Hugh Bp. of Lincoln</i>	39			21	19	5	8		57	6
18	W	Mich. Term 3 return	40			20		19	10		4	7
19	Th		42			18		33	11		13	8
20	F	<i>Edmund K. & Mart.</i>	43			17		47			morn	9
21	S	[<i>Cæcil. Old Mart.</i>]	45			15	20	0	0		27	10
22	D	25 Sunday after Trinity	46			14		13	1		44	11
23	M	<i>St. Clement</i>	47			13		26	3		4	12
24	Tu		49			11		38	4		27	13
25	W	D. of Glou. b. <i>Cath. Mic.</i>	50			10		50	5		52	14
26	Th	[T. 4 re.]	51			9	21	1		D	rises	F
27	F		52			8		12	5	a	25	16
28	S	Mich. Term ends	54			6		23	6		18	17
29	D	Advent Sunday	55			5		33	7		22	18
30	M	<i>St. Andrew</i>	56			4		43	8		32	19

Days	L. of D.	Day dec.	D. breaks	Tw. ends	Sun East	Cl. aft. S.	7 Stars So.
1	9	36	6 58	5 15	6 44	5 13	16' 14" 1 m 10
6		18	7 16	22	37	7	9 0 50
11		0	34	27	30	2	15 44 30
16	8	46	48	35	24	4 57	14 57 9
21		30	8 4	42	18	53	13 49 11 a 44
26		18	16	48	12	49	12 21 23

Last Quarter, 3d, 39m. past 7 morn.
 New Moon, 11th, 17m. past 11 morn.
 First Quarter, 19th, 29 m. past 7 morn.
 Full Moon, 25th, 22m. past 10 night.

Sun enters 25
 21d. 7h. 15m.

1	Tu		7	57	4	3	21	52	9	a	45	20
2	W			58		2	22	1	10	58		21
3	Th			59		1		10	morn			22
4	F		8	0	0			10	0	7		23
5	S			1	3	59		26	1	17		24
6	D	2 S. in Advent	Nicholas	2		58		33	2	2		25
7	M			2		8		40	3	28		26
8	Tu	Conception of Virgin Mary		3		5		46	4	34		27
9	W			4		56		52	5	39		28
10	Th			4		56		58	6	43		29
11	F			5		55	23	3	D	lets	N	
12	S			5		55		8	4	a	55	1
13	D	3 Sun. in Advent	Lucy	6		54		12	5	43		2
14	M			6		54		15	6	39		3
15	Tu	Ember Week	Cam. T. e.	7		53		10	7	42		4
16	W			7		53		21	8	50		5
17	Th	Orf. T. e.	[O. Sapient	7		53		24	10	2		6
18	F			8		52		25	11	15		7
19	S			8		52		27	morn			8
20	D	4 Sunday in Advent		8		52		27	0	32		9
21	M	St. Thomas	Shortest Day	8		52		28	1	49		10
22	Tu			8		52		28	3	10		11
23	W			8		52		27	4	33		12
24	Th	Christmas Day		8		52		26	5	57		13
25	F	St. Stephen		8		52		25	D	rises	F	
26	S			7		53		23	4	a	46	15
27	D	1 S. af. Christ. St. John		7		53		20	5	55		16
28	M	Innocents		7		53		17	7	9		17
29	Tu			6		54		14	8	23		18
30	W			6		54		10	9	37		19
31	Th	Silvester		5		55		6	10	49		20

Day	L. or D.	Day dec	D. breaks	Tw. ends	Sun	ft	Cl. aft. S.	7 Stars	Sa
1	8	6	8	28	5	54	6	6	4
6	7	56	38	57	3	43	8	33	10
11		50	44	58	2	41	6	10	18
16		46	48	59	1	40	3	55	9
21		44	50	0	0	39	1	20	34
26		46	52	59	1	40	1b.	5	12

CHRONOLOGICAL NOTES, &c. in 1795.

Dominical Letter	D	Roman Indiction	13	Easter Day	Apr. 5
Golden Number	10	Septuages. Sun.	Feb. 1	Ascension Day	May 14
Epaet	9	Shrove Sunday	Feb. 15	Whit-Sunday	May 24
Cycle of the Sun	12	Lent begins	Feb. 18	Advent-Sun.	Nov. 29

ECLIPSES, &c.

THERE will be four eclipses this year, two of the Sun, and two of the Moon; the two latter only of which will be visible in this country.

I. JAN. 20, the Sun is eclipsed, central and annular, but invisible here, near midnight.—II. FEB. 3, the Moon is visibly eclipsed, almost at midnight. Begins at 10h. 59m.; middle of eclipse 12h. 25m.; end of the eclipse 13h. 51m.; duration 2h. 52m.; digits eclipsed 7^o 28'.—III. JULY 16, the Sun eclipsed, invisible, about 30min. past 7 in the morning.—IV. JULY 31, the Moon is partially eclipsed and visible here. Begins 6h. 46m.; middle 7h. 42m.; moon rises 7h. 43m.; end of the eclipse 8h. 38m.; digits eclipsed 2^o 52'.

VENUS is a morning star till Oct. 18; then an evening star to the end. JUPITER is an evening star till Jan. 5 then a morning star till July 26; after that an evening star to the end.

ANSWERS to the ENIGMAS.

1 Check	6 Garter	Suppl. Enigmas.	5 Eye
2 Music	7 Tie	1 Kiss	6 Books
3 Charade	8 Dew	2 Sleep	7 or Pr. Frost.
4 Ball	9 Camoleon	3 Weather Cock	
5 Skewer	10 or Pr. Tear.	4 Scythe	

Answers to the Prize Enigma.

1. *Sensation and Sentiment, by Adeline.*

Sweet is the lily! sweet the new-blown rose!
Sweeter the *Tear* that's shed for other's woes!
Those charm the sense by fragrance most refin'd:
This charms the soul and captivates the mind.

2. *Eve's Departure, by Miss Lucy Anderson, London.*

When Eve the beauteous garden left, | Of comfort and of joy bereft,
Her soul was seiz'd with fear; | She sigh'd, and dropp'd a *Tear*.

3. *By Miss Nanny Dent, of Osmarflat, near Barnard Castle.*

Woolston's sublime poetic skill | How sweet the *Tear* drops from his
Doth oft my thoughts engage.— | Upon Diaria's page. [quill

4. *Miss Louisa Harpur's Address to Mrs. Richardson.*

When I listen to Vertigo's lyre, | Such charming emotions arise,
Its sounds so much pleasure convey; | As language can never impart; [eyes,
I dwell on each note, and admire, | And the *Tears* that now fall from my
Till rapture my bosom does sway. | Prove the feeling that touches my heart.

His

His verse I have often compar'd
To each beauty that nature bestows,
When the linnets's soft warblings are
heard,

And dew drops bespangle the rose.

Not Alexis, beside silver Thames,
To numbers more sweet tun'd his
song,

When the sylvans applauded his strain
And shepherds to praise him throng.

Were my muse, lady, bright as yew
own,

My grateful effusions to pay,
In Calliope's notes should be shewn,
The magic of Vertigo's lay.

5. *The Contrast, by Hilaria.*

Discover'y issu'd from the mind,
When hitherto I've solv'd the prize;

But now, by poring almost blind,
The answer trickled from my eyes.

6. *Invocation to Pity, by Miss C. B. R.*

Say, shall my humble muse obtain a place?

For to my lay no glowing themes belong:

But ah, tho' void of rich poetic grace,

Dear Lady Di, deign listen to my song.

'Tis when the noblest passions of the soul,
When god-like sympathy her influence bears,
On mercy's wings indignant of control,
Springs the sweet moving eloquence of Tears.

Thus too when fell despair and horror reigns;
When the lorn maiden beats her breast in vain,
And mourning to the echoing woods complains,
Start the soft Tear like dew-drops on the plain.

Come, blest attendant on the cherub love,
And glow with pity in my youthful eye,
Translated from the blissful realms above,
And animate this fondly heaving sigh.

7. *By Miss E. Robertson of Chester-le-Street. Addressed to a Friend who wept when he found her in Sickness.*

Thy heaving sighs, my tender friend,
Bespeak thy inward smart;

And ev'ry sigh thy Tears attend,
To prove thy honest heart.

Other separate answers to the Prize Enigma, beside those inserted in the Supplement, were given by the following Ladies and Gentlemen: Academicus, Amicus, Amelia, Anna, Anna of Bradninch, Appleton, Miles Aspinall, James Ayres, J. Ayres, C. B., Tim. Bailey, Geo. Baron, R. Baxter, A. N. Betterton, Tho. Bowman, Betty Boys, John Brooksbank, John Browne, Wm. Burdon, Wm. Charles, Cbimes, Clarissa, Clericus, Geo. Cook, Cornubiensis, Tho. Coulfson, Jos. Cox, J. Crosby, Rob. Cundall, T. Darwin, Tho. Davis, Ja. Dawson, Jos. Daubney, Rd. Denning, Ja. Dick, Dorothea, H. E., Eliza, Exobank, J. Fildes, John Forster, Mrs. Furnass, A. Gibbs, Geo. Gibbs, O. Gregory, G. H., John Harrison, Sam. Harvey, Tim. Hastings, John Hawkes, Hilarius, Tho. Herod, Tho. Horner, Sam. Hot, Jo. Heney, Rd. Humber, S. J., J. Jackson, Jacobus, T. Jagan, J. Kimbell, Lady, Leonora, J. Liddell, A. Linnott, Louisa, M. M., Maria, Wm. Marriot, P. Measer, J. Mendis, J. Moon, J. Mulcaster, Novitius, Oratorian, Philander, Rd. Pidgley, G. Potts, H. Procter, Da. Roberts, G. Robinson, Rd. Robinson, Wm. Robinson, A. Rowe, T. S., J. Savage, J. Scholfield, J. Sensible, J. Shackleton, Miss Single, Sam. Skerrit, J. Stafford, T. Starn, J. Starvelly, J. Taylor, M. Thorpe, Miss S. W., J. Walton, J. T. Truscott, Tweddle, Wm. Wara, J. Webster, Matilda Lawrence, Strephon.

GENERAL ANSWERS to the ENIGMAS.

1. *Elegy on the Death of a young Lady; by Mr. Job Ayres.*

What voice is that resounding from afar,
 That to my breast a woeful tale doth bear?
 'Tis she! whose *Cheeks* a native smile did grace, 1
 And mild simplicity shone in her face;
 Her mind prophetic of each heav'nly art;
Musick's soft power that steals upon the heart, 2
 In her inspir'd for all a love divine;
 Her actions bright did others far outshine!
Amusements innocent she would commend; or Char. 3
 And was to all a true and faithful friend.
 Attracted not by *Ball* nor festive dance, 4
 That pride and vanity so oft enhance.
 No art however small did she despise,
 The splendid *Garter* or the *Skewer* would prize. 5, 6
 Not as the rapid *Tide* her passions grew, 7
 But mild and gentle as the morning *Dew*. 8
 No diff'rent aspects did she ever wear,
Cameleon like, survey'd in front or rear. 9
 Her love sincere, her friendship ever true,
 Her manners simple, unaffected too:
 So heaven took her, in the prime of life,
 From worldly bustle, care, and noisy strife.
 Blest shade! these simple lays, this friendly *Tear*, 10
 Shew thy remembrance is for ever dear;
 For I can ne'er forget Maria once was here.

2. *The Invitation; by Mr. John Brooksbank, Howden, Yorkshires.*

Ere Sol dries up the morning *Dew*,
 I to my flock repair; {stream,
 And near the *Ouse's* murmur'ring
 Watch o'er my fleecy care:
 Yet in this calm retreat I want,
 To heighten all my joys,
 You shepherdes of Stanton Vale,
 Sweet, lovely Betty Boys.
 The swelling *Tide* glides gently by;
 Upon my pipe I play;
 The lark and blackbird sweetly sing,
 Until the close of day:
 Then I unto my cottage haste,
 And Lady Di enjoy,
 Enraptur'd as I read the lines,
 Of lovely Betty Boys.
 Nor *Ball* nor play I ever see,
 Where noise combines with strife;
 Nor do I live *Cameleon* like,
 In this retired life:

No; on the best of food I feed,
 And not on air or flies;
 I often toast you in my glass,
 Sweet lovely Betty Boys.
 Come tie your *Garter*, pin your hair,
 Then to my cottage haste;
 Leave that much boasted vale of yours,
 And of my pleasures taste:
 In peace I live, secure and free,
 From bustle and from noise;
 Yet want, to make me truly blest,
 You, lovely Betty Boys.
 Your lovely *Cheeks* ensnare my heart,
 Your *Musick* is so sweet,
 That as I con your dark *Charades*,
 In this my calm retreat;
 I often sigh, or drop a *Tear*,
 So rapt'rous are my joys;
 Haste! and unto your shepherd come,
 Sweet, lovely Betty Boys.

B

3. *The*

3. *The Powers of Music; by Chimes.*

Last night as with a friend I sat,
 Passing the time in harmless chat;
 And knowing him a witty blade
 At riddle, rebus, or *Cbarade*;
 Without a blush made this enquir'y,
 Pray have you seen the Ladies' Diary?
 Yes, Sir, I have, nor think me vain,
 If I th' enigmas now explain.

The first, said he, I think is that,
 Giving his *Cbeek* a gentle pat.
 But feeble is the force of verse,
 Thy powers, O *Music*, to rehearse;
 Thou oft in palaces art found,
 And *Ball-rooms* with thy notes re-

found.
 Thy thrilling notes run thro' the
 whole
 Cathedral, and expand the soul.

4. *An Invitation to Miss Ball to take a Walk; by Mr. Phil. Norriss.*

When sol dispels the twilight's gloom,
 And fragrant flow'rs shed sweet per-

fume,
 And tuneful warblers sing their loves,
 And *Music* echoes thro' the groves;
 And glitt'ring *Dew*, in pearly *Tears*,
 Upon the verdant grass appears:
 With sweet *Miss Ball*, that lovely fair,
 I'd stray, to share morn's balmy air,
 Into the field, or flow'ry mead,
 Or fertile plain, or myrtle shade;
 Or else beneath some neat alcove,
 Or arbor—seat of tranquil love—
 Sit down, and in sweet converse join,
 And view the shady ivy's twine;
 Or ponder o'er some dark *Cbarade*,
 On *Garter* or on *Skewer* made;

But not to grandeur fix'd alone;
 In ev'ry station thou art known,
 From *Garter'd* knight, lord, king, &c.
 queen,

To rustle on the *Dewy* green;
 E'en butchers, as they dress their vest
 Thy pow'rful influence can feel;
 Tho' hoarse, they sing from morn'til
 noon,

And ev'ry *Skewer's* set to tune.
 To camps and cities thou'rt allied;
 With sailors plow the briny *Tide*.

'Tis said *Cameleons* change their hue
 This thou canst with our passions do
 Discordant sounds can fire with rage,
 And playful notes can grief assuage,
 Bid each unpleasing object fly,
 And wipe the *Tear* from sorrow's eye

Or o'er enig. or rebus pore,
 Replete with flights of lofty lore;
 On woman, fickle as the wind,
 Or on the frailty of mankind:
 On rosy *Cheeks* and lovely features,
 Or on *Cameleons*, hideous creatures
 Or if more pleasing it might be,
 To walk along the sweet *Mersey**,
 To view large ships with swelling sails
 Stemming the *Tide* before the gales,
 Or watch some boatman ply his oar
 Or view the fertile *Cheshire* shore;
 Or where more pleasing scenes invite
 With her I'd go, with fond delight,
 To spend sweet hour.—Ladies, good
 night.

* *The river Mersey.*

5. *The Force of Fashion; by Mr. Wm. Ward.*

As the *Cameleon* is said
 To take its hue, or white or red,
 From the next object, and is known
 To have no colour of its own;
 Our belles and beaux, in imitation,
 Adopt this or the other fashion.—
 Ask *Charlotte*, why her hat is ty'd,
 Or *Pin'd* most rakishly aside?
 'Cause at the *Ball* last night, you'll
 A noted one did thus appear! [hear,
 The patch upon her *Cbeek*, you'll find,
 To hide a blotch was not design'd,

But, Sir, *Celinda's* never seen
 Abroad, without a patch or twain
 Or ask Sir *John* why, "like the trade
 That nature gives an ass's back,"
 An ornament which some suppose
 A counterbalance to the nose;
 And what was, scarce a week ago,
 The summum bonum of a beau;
 No longer as the mode decides,
 Between his powder'd shoulders riden
 Was it because some vulgar folks,
 Who're ever forward with their jokes

Have said, alluding to that fashion,
As Burke's sarcastic appellation;
Who, speaking of the low and rude,
Terms them a "swinish multitude?"
Because his *Grace*, for ridicule,
Is thrown away upon a fool;
When almost ev'ry boy had one,
Chose lately to appear with none;
And *Tears* bedew Cleora's eyes,
If but a fly or emmet dies;
But why? because *Cloris*, it's said,
Bewail'd a caterpillar dead!
And 'cause *Belinda* after tea,
Will hum a tune, we ev'ry day,
When breakfast or when dinner's
done,
Are teaz'd with *Flavia's* awkward tone.
Ah me! what hapless fate betides,
Then him who on fame's pinions rides

Aloft, and shines along the sky,
Th' unrival'd prince of harmony!
That he, bless'd bard! whose heav'nly
airs

Have in oblivion sunk their cares,
And held inspiring hopes and fears,
Enraptur'd monarchs by the ears,
Should likewise be an instrument,
By which to raise our discontent!

That you, dear Ladies, could not
Except of an exotic kind, [find,
That creature, type of faithless swains,
On Britain's happy fertile plains,
As *Di* records, a year ago
I said, but must gainsay it now,
For sure *Cameleons*, whether found,
In Arab do not more abound,
Or by the Euphrates, or the Nile,
Than now in this our seagirt isle.

6. To *Lady Di*; by Mr. Geo. Cook, jun. Everingham, Yorkshire.

Thou, lovely *Di*, my artless lays attend,
Accept the tribute of a faithful friend,
Whose breast long since your matchless pow'r hath warm'd,
Your beauty smote him, and your converse charm'd.

Ah! why so coy? will you so cruel prove,
Slight each kind offer, and reject my love?

Will you, oh mournful thought! whate'er betides,

Refuse the lover, and his suit deride?

By cruel treatment drive me to despair,

Cameleon-like, to feed on empty air?

My disappointment while I fondly weep,

The *Tear* fast trickling down my *Dewy Cheek*:

But if you'll kindly ease a lover's smart,

Tie up my wounds, and heal a broken heart;

If, sweet as *Music*, you'll but whispering say,

"Leave off thy sorrows, chase thy fears away;"

Each year revolving shall new pleasures bring,

To guess your *Charades* none shall humbler sing.

The child and *Ball* not so completely blest,

In thought transported now secure I'll rest.

7. The Village Maid; by the Rev. Mr. Ewbank, of Thornton Steward.

When the blush of the rose, on the *Cheeks* of Aurora,

Dispers the dim shades of the night;

I rise from my bed, without any remora,

Say my prayers, dress, and *Garter* outright;

Then walk thro' the meadows bespangled with *Dew*,

To milk ev'ry morning my kine;

The beautiful songsters around me I view,

Instinct-taught is their *Music* divine,

R 2

Sharp

Sharp *Skewers* perhaps may my fingers annoy,
 When I meat for the dinner prepare;
 But I'm far better pleas'd with domestic employ,
 Than to go to a *Ball*, or a fair.
 To make a *Charade* does not lie in my way
 Tho' *Whitsuntides* twenty I've seen;
 Nor that a *Cameleon* I've seen, should I say;
 'Taught not to tell lies I have been:
 Since the scriptures declare, that all such as tell lies,
 And the laws of *Jehovah* transgress,
 Will be doom'd to a place, where the *Tears* in their eyes
 Denote torments, no words can express.

8. *The Choice of a Wife*; by *Hilarius*.

Which shall our choice engage, and bliss impart?
 The child of nature, or the child of art?
 Can she who floats on fashion's idle *Tide*,
 Lost in the vortex of parade and pride,
 Who seeks for joy, where joy was never found,
 In midnight *Ball*, in festive *Music's* sound;
 She, who to catch a smile from *Garter'd* beau,
 In tinsel *truss'd* appears in formal show;
 Whose mind surveys gay fashion's ample range,
 And joys, *Cameleon-like*, in frequent change,
 Can she, or nature's darling claim our choice?
 One who directs her steps by reason's voice,
 And while to fashion she no homage pays,
 In sweet retirement glide her peaceful days;
 One who with rapture hangs on hist'ry's page,
 Or dark *Charades* her leisure hours engage;
 One who can feel for all—whose tender soul
 Is ever sway'd by pity's soft controul,
 Which bids her frequent steps the wretched seek,
 And many a *Tear* bedew her lovely *Cheek*.
 Which then becomes the object of our choice?
 Who shall decide but reason's awful voice?
 "Nature and nature's charms for ever prize,
 "Laugh ye at folly, and condemn disguise."

9. *The Happy Retreat*; by *Miss Harriot Holebsch, near Wolsingham*

Devoid of ev'ry toil and strife,
 Enjoy a peaceful country life,
 Nor with the great one's lot;
 Secure I live from horrid wars,
 From city's noise and household jars,
 Within my tranquil cot.
 'Tis fix'd upon a rising ground,
 The *Tide* of plenty flows around,
 With ev'ry thing to cheer:

The rustic maid, and eke the swain
 When he comes weary from the plain
 In order all appear.
 A little brook runs murmur'ing by,
 Where oft to catch the scaly fry,
 I'm wont to take delight;
 But ah! how vain is all my art,
 They like a *bullet* quickly dart,
 And hide themselves from sight

The *Garter'd* knight with honor
 fraught, [brought,
Toss'd up with lace from India
 Cannot compare with me.
 Remote from court where envy reigns,
 I seek those tranquil rural scenes,
 From pride and folly free.
 Young *Strephon* from the *Dewy* vale,
 Oft comes to tell his tender tale,
 And sues with vows of love;
 The *Tear's* a stranger to his *Cheek*,
 And ev'ry feature doth bespeak
 His constancy to prove.

His heart is fix'd, and free from guile;
 At ev'ry look and ev'ry smile,
 I find a pleasure new:
 His mind is never known to range,
 Or like *Cameleon* apt to change,
 At ev'ry diff'rent view.
 Now hand in hand with pleasure
 crown'd,
 We often walk where echo's round
 The *Music* of the grove; [shade,
 Where oft beneath the hawthorn
 With pleasure con the gay *Charade*,
 And tell soft tales of love.

10. *On War; by Jacobus, of Norwiche.*

Still that base demon war appears in fight,
 Still urges nations to the bloody fight;
 With vengeful stride she stalks o'er half the world,
 And by her all is in confusion hurl'd:
 She writhes with strong commotions peaceful plains,
 And spreads wide havoc over vast domains;
 Amid those slaughtering scenes of human blood,
 See ruin'd heaps where once proud cities stood;
 The happy peasant though *secure* his cot,
 But rapine, plunder, murder, are his lot:
 No martial *Music's* captivating *Charms*
 Can now allure his ear, unsafe from harms;
 For different *instruments* of death he views,
 As various as the sleek *Cameleon's* hues.
 Ah, see the ravag'd family now fly
 Their little home with many a grievous sigh,
 In foreign climes seek refuge from despair,
 While down their woeworn *Cheeks* runs many a *Tear*.
 Methinks I see the emigrants in *bands*,
 Now beg their bitter bread from scanty hands.
 But be content—peace will again descend,
 And scatter plenty o'er a smiling land.—
 Meek as the gentle *Dew*, will take her seat
 On Britain's isle, and make her triumph great;
 Then every honest heart with joy shall *flow*,
 As great a joy as mortals wish to know.

5

2, *side* 3,

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11. *On the Death of an Infant; by Mrs. Alethea Wilhelmina Maken.*

But one quick round the earth had
 made, [play'd,
 While health and beauty were dis-
 Upon its lovely *Cheeks*;
 When lo! this pledge of faithful love
 Was snatch'd by heaven to realms
 above,
 Where *Music* joy bespeaks.

Let poets, who *Charades* compose,
 And nature's secret haunts disclose,
 The reason now explain,
 Why from our earthly *Ball* this
 boy,
 His parents' darling hope and joy,
 Thus quickly should be torn.

But rankest weeds alone can thrive,
And few but wicked men survive,
So poison'd is the land!
In Skewer'd dress and haughty pride,
Some Carter'd fops, in fortune's Tide,
Disown God's ruling hand!

The genial *Deus* of truth and grace,
On this *Camelion* futile race,
Descend too oft in vain:
Therefore ye parents, to the skies,
Instead of griefs, let thanks arise,
And all your *Tears* restrain.

Other ingenious answers to the Enigmas, beside those inserted in the Supplement were given by the following Ladies and Gentlemen, viz. Adalina, Albumazar, Aimavell, Archer, Appleton, John Ashcroft, James Ayres, J. Bailey, L. Braden, Betty Boys, John Browne, Junius Catone, Charlotte, Chr. Clark, J. Collins, Jos. Cox, Tho. Crawhall, jun. T. Crosby, Jos. Darwney, Tho. Davis, Wm. Davis, Ja. Davison, Delia, Rd. Dening, Dorsetiensis, J. Fildes, Francis, Mrs. Furnass, G. Gibbs, Ol. G. Gregory, Hermes, Sam. Harvey, Tho. Henry, Wiles Hostman, Rd. Humber, J. Jackson, J. Jackson, jun. Jacobus, T. Jaqua, J. Johnson, Dan. Lees, Wm. Marriott, Rd. Nicholson, M. Priestman, Dido Pun, Don Quixote, Betsey R, J. Rimmer, Da. Roberts, Geo. Robinson, Ann Rowe, Polly S, J. Savage, Tim. Sensible, T. R. Smart, Sphinx, Mat. a boy, W. Watts, Geo. Webb, and J. Wheeler.

ANSWERS to the REBUSES and CHARADES.

Rebuses.		Charades.	
Diary.	Sup.	Diary.	Sup.
1 Gulson	1 Stainton Vale	1 Teacup	1 Tombl'one
2 Bearcroft	2 London	2 Bridegroom	2 Rainbow
3 Love [pipe]	3 Hughes	3 Teapot	3 Wedlock
4 Smile or Horn-	4 Truwell	4 Deathwatch	4 Cartidge.

1. By Miss Betty Boys, of Stainton Vale.

Tho' *Gulson* by her *Lovely Smiles*
A *Bridegroom* sweet obtain,
And *Bearcroft* by his artful wiles
Pluck of *Apollo's* fane:

Yet both, when *Deathwatch* found
Must throw their *Teatlings* by, [hears]
Their dearest and their best regard,
For both are born to die.

2. By Mr. John Brooksbank, of Howden, Yorkshire.

Aminicus' breast by Miss *Gulson* is fir'd,
'Tis *Bearcroft*, Miss *Boys* sure must mean;
A *Hornpipe* I find is by Miss *Wood* admir'd,
And *Love* is society's chain.
A *Teacup* displays Mr. *Crowle's* dark Charade,
A *Bridegroom*, friend *Davison's* too;
And on Mr. *Laidman's* a *Teapot* I've made;
Mr. *Nield's* is *Deathwatch*;—so adieu.

3. Rebuses answered by Chimes.

Come *Bearcroft*, now your time im-
prove,
To *Stainton* haste, and plead your
Love;

Where Betty's *Smiles*, which new
fail,
Encrease the *Sweets* of *Stainton Vale*

Aminicus

Aminicus, on that blest day,
When *Gulson* shall thy truth repay;
May gentle breezes fill each sail,
And bear you down to *Stainton Vale*.

Then happy pair, how blest your lot!
How tuneful then the pleasing spot!
While fame shall waft on ev'ry gale,
The muse's seat in *Stainton Vale*.

4. *The same answered by Mr. James Davison, Newcastle.*

Recluse from plagueful din and strife,
Oh! might I pass my tranquil life;
From crowded *London's* tainted air,
To *Stainton Vale*, sweet peace, me
bear!

Where, thro' the gently circling year,
No *Carriage* dire the rustics fear.
When *Titan* paints the western sky,
With beauteous clouds of *Tyrian dye*,
I view the *Rainbow* drawn by *Hughes*;

Or walk amidst the baleful yews,
That o'er the silent *Tombstone* spread
Their sacred boughs, and weep the
dead: [more

There *Wedlock's* charms and care no
Molest or gladden, as before;
No song, not even *Truswell's* strains,
Soothe, for eternal silence reigns.
Here, thus, immur'd in shades, wou'd I
Spend life's short span, and learn to die.

5. *To Aminicus; by Mr. O. G. Gregory, of Yaxley.*

If you with *Miss Gulson* be fallen in *Love*,
As your presents of *Teapot* and *Teacups* will prove,
And if the sweet girl deigns to *Smile* upon you,
Then marry her straight, and to her be true.
Why you my good Sir are a *Bridegroom* become,
For *Bearcroft* and other such friends you'll find room:
As ev'ry *Diarian* will give you a call,
Don't fright 'em like *Deathwatch*, but welcome them all.

6. *The same, by Mr. John Jackson, Jun.*

Love's a strong passion felt every day,
And *Bearcroft* once knew it, as I have heard say;
Miss Gulson sought shy, but 'twas only a wile,
For he caught her at last, by the charms of a *Smile*.
The *Bride* and the *Groom* now quite happy appear,
They have *Teacups* and *Teapots* with delicate cheer;
As to *Deathwatch*, they seldom if ever give ear.
Long, long may they live, nor each other once slight,
And at last join the chorus with angels of light.

7. *The same, by Jacobus of Norwich.*

Fair Gulson, Bearcroft, Love, and
Smile,

The rebuses in *Di* explain;
And as I think they're guess'd aright,
I'll e'en make bold to try again.

A *Teacup, Bridegroom, and Teapot,*
Will three charades bring forth to
light;

The *Deathwatch* will the next disclose,
That often fearful men affright.

8. *The same, by Mrs. Alethea Wilhelmina Maken.*

Of *Gulson's* charms let *Bearcroft* sing,
And she with *Smiles* reward his
Love;

While all the merry bells shall ring,
And he a happy *Bridegroom* prove.

His kindness shall her wants supply,
Teapots and *Cups* will he provide,
Nor shall the *Deathwatch* damp their
joy, [tied.

When fast in *Hymen's* noose they're

9. *The same*; by Mr. Wm. Marriot, of Neath.

Let *Gulson* and *Bearcroft*, with notes sweetly flowing,
 To the tune of the *Hornpipe* their feet nimble move;
 For the *Bridegroom* appears with an ardour that's glowing,
 To meet his dear girl in the shaded alcove.
 The *Teacups* and *Teapot* were just now preparing,
 To give you a banquet delicious and fine;
 There the *Loves* and the *graces*, and whatever's cheering,
 Regardless of *Deathwatch*, shall quickly be thine.

Other ingenious answers to the *Rebuses* and *Charades*, beside those inserted in the Supplement, were also given by *Adelina*, *Aimwell*, *Anna of Bradnina*, *Appleton*, *T. Archer*, *J. Ascroft*, *James Ayres*, *Job Ayres*, *J. Bayley*, *L. Bowden*, *J. Browne*, *W. Burdon*, *J. Cavill*, *W. Charles*, *H. Collingwood*, *T. Collins*, *G. Cook*, *T. Crosby*, *R. Cundall*, *J. Daubney*, *T. Davis*, *W. Dene*, *R. Dening*, *J. Ewbank*, *J. Fildes*, *G. Gibbs*, *S. Harvey*, *J. Hawkes*, *H. Hemes*, *T. Hewitt*, *T. Hornby*, *W. Hofman*, *R. Humber*, *T. Jacques*, *J. Johnson*, *J. Jones*, *D. Lees*, *P. Measor*, *Minor*, *R. Nickolsen*, *Ortonian*, *D. Pun*, *Betsy R.*, *D. Roberts*, *G. Robinson*, *A. Rowe*, *Polly S.*, *T. S.*, *Savage*, *J. Scott*, *T. Sensible*, *Miss A. T.*, *M. Thorpe*, *W. Watts*, *G. Wain*, and *J. Wheeler*.

ANSWERS to the QUERIES.

QUERY I. answered by Mr. Chapman, of Bratton School, near Westbury, Wilts.

Plow-day had its origin when the feudal system of government prevailed in this country; when the lords and barons had their land tilled by their vassals or tenants. The Christmas holidays terminated on Twelfth Day, and the plowing season, for the New Year, commenced the first Monday after; on which day, the sockmen (as this sort of plowmen were then called) were obliged to appear with their plows, &c. at a place appointed; there to have them examined whether they were in proper condition to perform their lord's work: for plows were scarce, and it was a mark of some consequence to possess one in good order. Hence the appellation of Plow-Monday has ever since been retained to the first Monday after Twelfth Day.

Mr. Thomas Coulson says, Plow-day, which is always the next Monday after Twelfth Day, it is supposed took its name from some plowmen in the north country, who drew a plow from door to door, begging money to drink, &c.

Indeed this ceremony is still practised in the north of England, not on that day only, but for several days about the beginning of the year, and seems to be the remains of some ancient games or sports, celebrated about that season. Or perhaps it was only to beg money at a season when they were prevented from plowing the land by frost, &c.; upon the same principle as the boatmen and fishermen carry a boat about the streets of London in the times of long and severe frosts.

QUERY II. *answered by Hermes.*

That honey has a property of dissolving resinous gums, which water on the contrary hardens, may account for its penetrating through a wooden vessel, as wood in general contains some portion of resin. But, that it should escape through an earthen pot, in which there is no flaw, I have never had an opportunity of observing.—Perhaps it possesses a greater tenacity of parts than water.

Mr. T. Hewitt says, The reason why treacle or honey will penetrate through a wooden vessel sooner than water, is because the particles of treacle and honey are finer than those of water.

Mr. Philip Norris says, Honey is allowed by physicians to be extremely penetrating and detergent, and to contain an infinite number of acid and saline particles; and by distillation it is found to produce an acid spirit, which, like distilled vinegar, will dissolve coral, pearl, &c. Hence it appears evident, that by its viscosity, adhesive and attractive properties, it expands or draws open the pores of such wooden vessel, &c.; while the acid and saline parts, by their extreme subtlety, minuteness and repulsive power, penetrate and distil or shoot through.—And in like manner it is most probable that treacle acts, though perhaps not quite so forcibly.—But common water, though often impregnated with saline, metalline, or heterogeneous particles, yet these being void of all clammy adhesion, it is impossible they can act in the same manner; for instead of opening the pores of a wooden vessel, and passing through, they merely soak in, causing the texture of the wood to swell, expand, and adhere more firm and close together, and rendering the vessel more compact and staunch.

QUERY III. *answered by Mr. John Burrow, of Bolton Field.*

The white specks are caused by bubbles of air getting under the nails, leaving an empty place which appears white, and grows up with the nail. They are frequent in young people, whose bodies are open and more porous; but very rare in old or grown up persons, whose bodies are more dense and solid. How they come to be called gifts is not material, as the expression has no truth in it.

Mr. J. Liddell, of Hovingham, says, The cause and the name originate from one thing, being (to use Shakspeare's words) the Gifts of nature.

Mr. Alexander Rowe, of Reginnis, says, They seem to proceed from the papillæ of the skin, being amply supplied with heat and moisture, in like manner as the blossoms of trees are produced in spring. As to the expectation of gifts to follow immediately after their appearance, it is doubtless no more than a vulgar error.

QUERY IV. *answered.*

All the answers to this query, which are pretty numerous, are decisive against the ill-tempered quality; excepting *Mr. Alex. Rowe* only, who says, It is a pretty common adage, "I shall please my eye, if I plague my heart:" from whence we have this deduction; that the appearance sometimes of ill-nature is not so pernicious as almost always a continual phenomenon of the loss of beauty: and hence bodily deformity is the greater
bar

bar to connubial happiness.—As a specimen of the answers on the contrary opinion, we may here give the elegant and complete one,

By the Rev. Mr. S. Vince, of Cambridge. “It would exceed the limits of my time, as well as your publication, to say every thing that might be produced on this subject; but I am inclined to hope, that I can prove, in a few words, that ill nature is a far greater bar to connubial happiness than bodily deformity. In the first place, it is a truth allowed by philosophers of all descriptions, that beauty is at best but a transient possession, whose bloom and triumph are confined to a temporary hey day of the blood, and to the fickle vigour of immaturity. On the other hand, it is our axiom equally confirmed by the consent of that part of mankind, whose judgment would be thought to establish a cause, that the graces of the mind are ever to be preferred to those of the person, not only from their permanency when compared with those of the body, but for many other obvious reasons which need not be enumerated here. A deformed body has been very frequently found to contain a mind fraught with the dignity of virtue, and swelling with the sensibility of compassion and the ardour of justice, while at the same time, in the connubial state, the excesses and debaucheries to which mankind are addicted, are likely to be less pursued than common by a deformed person. Ill-nature on the other hand, embitters the portion of matrimony with continual complaints and unending afflictions; for, instead of confining its lamentations to real miseries, the mind tinctured with this poison violates the prosperity of every hour and every day by its continual and groundless dissatisfaction. Hence then it may be justly concluded, that “Ill-nature is a far greater bar to connubial happiness than bodily deformity.”

NEW ENIGMAS.

I. ENIGMA (772), by Adeline.

In gloomy convent, or in dreary cell,
Where pious monks and holy hermits dwell,
I'm never seen; but search the world around,
In social circles I am daily found.
I, rich and poor, peasant and prince befriend;
Alike to each my soothing aid I lend.
But tho' in palaces I claim a place,
I often bear the token of disgrace;
Yet, strange to tell, I may in strictest sense,
Be deem'd the seat of perfect innocence.
Tho' happy they, the happiest of their kind,
Whom love unites, and Hymen's fetters bind,
Imperfect is their bliss till me they need,
When I appear, then are they blest indeed.
O'er me they anxious bend, in me behold
Treasure more valu'd than the miser's gold,

II. ENIGMA

ENIGMA (773), by Mr. John Brooksbank, Howden, Yorkshire.

the British fair, attend I pray,
 to a friend, seen every day;
 and while you here your art extend,
 on you perhaps I do attend.
 When bright Aurora paints the sky,
 and larks to hail the morning fly;
 or when the swains, in cooling
 streams,
 fly from sol's meridian beams,
 I'm never seen;—no, far I'm fled;
 but should bright sol recline his
 head
 Within the West, I shall be seen
 by you and all that trip the green.
 Should you attend the ball or rout,
 Where precious gems your charms
 deck out;

Or shou'd you to the playhouse hie,
 Where numbers meet th' astonish'd
 eye;
 I then attend, ye lovely fair;
 Or shou'd you walk to take the air,
 With the blest youth your heart holds
 dear,
 Perchance to you I then appear.
 When Adam reign'd in Eden's grove,
 Where all was harmony and love,
 I there was first beheld on earth,
 For I from him deriv'd my birth;
 With transport he beheld my face,
 Tho' 'twas thro' me he lost that place.
 The languid schoolboy's breast I fire;
 For me they pant, me they admire.
 Another hint, then tell my name,
 Backward or forward I'm the same.

III. ENIGMA (774), by Mr. John Browne, of Ware.

Ladies, a humble suppliant greets your ear,
 Whose chequer'd frame vast hair-breadth scenes drove thro';
 Whose only end's devoted to your care,
 'Twould melt your tender mind my tale of woe.

Suffice to say, these dire effects now past,
 For recent hardships well I am repaid;
 To wait on you, sweet privilege! at last,
 With your fair hand my open mouth is fed.

Conscious you are of my superior strength,
 I shield you from the keenest darts of woe;
 Retort the brandish'd lance in your defence,
 And quick thro' others strike the deadly blow.

Why is't that custom should prevail o'er man?
 To prejudice him 'gainst my useful arts;
 Whose bounded views can't half my virtues scan,
 Since 'tis thro' me are frequent shewn his parts.

Neglected thus, I fly to you, ye fair,
 Whose generous arm is open to befriend.
 May virtue, peace and love still be your share,
 And may I ever truly crown the end,

IV. ENIGMA (775), by Mr. T. Browne, of Yedingham.

To you, ye fair, I consecrate my song,
 To you, ye fair, the mystic strains belong.
 Say—may I find admittance in the train
 Of magic names that shine in Dia's fane?

Could I indeed but merit your regard,
 No more I ask, be that my sole reward.
 Where rolls the rapid rivers ample tide,
 Whose rushing waves the neighb'ring lands divide;
 Perhaps their tempers, diff'ring as their shores,
 Betwixt them hatred, as the torrent roars,
 Might rear'd her horrid head, in cited rage,
 And fiercely urg'd them vengeful war to wage.
 But I the bond of friendly union stand,
 By me conjoin'd, trade blesses either land:
 While mutual wants, as mutual wants arise,
 Still peaceful commerce from her stores supplies,
 By me protected pass the busy train,
 Who seek for pleasure, or who hunt for gain.
 Still as they pass, the crowds in me confide,
 And void of terror cross the rolling tide.
 But should e'er discord stir up dire alarms,
 And baneful anger call aloud for arms;
 Ah then no more my ready aid I lend,
 The passing swains I then no more befriend;
 Like as a bond discharg'd when fully paid,
 I'm then destroy'd, in vilest ruin laid.
 My best, my pleasing office then is o'er,
 Since peace upholds my staple frame no more.
 For peaceful intercourse alone I'm made,
 For mutual kindness or for mutual aid;
 War I abhor, and all its train of woes,
 But yet I prostituted am by foes;
 Oft I'm compell'd unwilling aid to yield,
 With blood, when slaught'ring armies dye the field,
 Them in their wasteful progress to befriend,
 My will by force superior forc'd to bend.—
 A little more I'll just address to you,
 Ye fair, till next year then I'll bid adieu.
 I oft sustain you when you trembling go,
 Where fatal dangers threaten from below;
 By me supported, firm you safely tread;
 Your path else dang'rous, and may nothing dread;
 And when your feet touch safer ground at last,
 You smile serene; your futile terrors past.

V. ENIGMA (776), *by Miss J. C.*

Ladies, like you do I begin,
 And draw from earth my origin;
 Like you, by fate ordain'd, I must
 Moulder again into the dust.
 Form'd by an artist's magic skill,
 I go obsequious to the will.
 My use is various, but my name
 And shape are ever still the same;

A head I have; no hands or feet,
 Am sometimes eaten; yet never eat.
 At one time large, another small;
 Sometimes am short, & sometimes tall.
 In palace, and in cot I'm found,
 And went with Cook the world around.
 Some ill I have occasion'd; but [to
 'Twas chance or force that drove me

Some

Some blood I have spilt; indeed 'tis
true,

A famous general once I slew :

And ah! I fear to speak the word,

Whelp'd to murder Christ our Lord :

In the impious deed did share,

Driven by force my part to bear,

Yet ladies view me, and you'll know,

That I'm a friend to high and low ;

And if I am not much mistaken,

I oftentimes have sav'd your bacon.

To peace inclin'd, I've even made,

Uniting separate friends my trade ;

And when 'mongst them they give me
place,

I form their lasting close embrace.

Then hate me not: advis'd be :

Raiment and food depend on me.

And when life's o'er, my use you'll
have,

I shall attend you to the grave.

VI. ENIGMA (777), by Miss Louisa Harpur.

High rais'd, with front protub'rant I appear,

And on my breast I gold and crimson wear,

So dear my honour to the good and great,

That kings with humbled mien before me wait.

I dwell where arts attract th' admiring eye,

Where sculpture, painting with each other vie ;

Where music wafts the soul on wings sublime,

And fancy soars beyond the bounds of time.

But wisdom's sacred laws adorn me most,

To trace her path has been my master's boast.

The eloquence and learning which I bear,

O did they ever make this aim their care !

From worldly policy each precept guard ;

Then peace and joy would be the blest reward.

Yet other counsels oft' from me are given,

Sly traitors, sometimes, steal a soul from Heav'n.

Bold cavils oft, and mad fanatic rage,

From me th' attentive hearers minds engage.

My form the mystic sees of Sweden tells,

Midst heavenly climes and choirs angelic dwells,

Where truths divine from lips celestial flow,

Whilst all before me brightest seraphs glow.

VII. ENIGMA (778), by Mr. Wm. Marriot, Neath, Glamorgan.

Hoping ladies you'll approve,

(As we sometimes deal in love ;)

We will venture forth to view,

If allow'd by Di, and you.

What melodious sounds you hear,

Sweetly swelling on the ear ;

'Tis from us those sounds proceed,

From your dearest friends indeed.

You without us cannot sleep,

Eat or drink ; or even weep ;

We are known to have such parts,

That we often win your hearts.

Yet it must be understood,

We are not at all times good ;

For without sufficient reason,

Sometimes have committed treason.

If to court you shou'd repair,

You are sure to find us there,

All the eloquence of Pit

Ne'er could do without us yet.

True we oft are known to aid

Hodge and Nell the chambermaid,

And were most esteem'd 'tis true

When we're of vermillion hue.

Twins

Twins we are, and when we meet,
Tender hearts each other greet,
Soft emotions fill your breast,
Lovers think each other blest.

Take but one of us, and think,
Write it down with pen and ink;
Reverse it—and you'll find it will
Denote what oft you take when ill.

VIII. ENIGMA (779), *by Miss in her Teens.*

When heav'n sent forth the new born
day,

And Phœbus first with splendor shone,
When light illum'd the milky way;
And massy orbs their maker own;

Ere man receiv'd the breath of life,
Or beauty 'dorn'd his bushy brow,
Ere heaven form'd his lovely wife,
I came forth mighty deeds to shew.

Serene I sat in Paradise,
No mark of trouble or despair,
Where peace and plenty took its rise,
I was handmaid to the happy pair.

When sable night o'erspread the lawn,
And floating lights their courses run,
I usher in the morning dawn,
And I prolong the evening fun.

Tremendous lightning I send forth,
Where Echo makes dread thunders
roll,

Quivering vapours from the north,
And wig with speed the cannon ball

See oceans bounding o'er their mounds,
And wars and tumults fill the globe,
Armies receive their mortal wounds,
And tyrants stain the purple robe.

In vain the "lordlings of the day,"
Make their ostentatious shew,
In vain contention marks its way,
Should I my friendly aid withdraw.

The feather'd tribe and humble bee,
The fleecy flock and royal game,
Not one but all unite with me,
And fishes too make good their claim.

The Afric slave and Briton free,
The vain coquet and puritan,
Prince and poor are one to me,
I'm friend and foe to beast and
man.

IX. ENIGMA (780), *by the Rev. Mr. S. Vince, Cambridge.*

Come, fair Enigmatists, and kindly hear
The woeful tale which we shall make appear!
Of race unnumber'd when we quit the womb,
We're quickly hasten'd to a fiery tomb,
Not hoping resurrection like mankind,
But to remain to endless dust consign'd.
In winter when the sun's prolific ray
Withholds its force, and darkness dims the day,
Then you ye fair our influence confess,
And oft rejoice to see our liveliness;
But when in summer nature's works all smile,
We then are an incumb'rance for a while.
Of hue more sable than the darkest night,
Until some time we have been brought to light.
Take one hint more, ye fair, and then adieu,
Unto mankind we general service do.

X. Or PRIZE ENIGMA (781), *by Hermes.*

Ladies! withdrawing from too curious eyes,
I come conceal'd in enigmatic guise;

And claim your best endeavours to unfold
 My well known name, in mystic language told ;
 Well known indeed, and noted is my name,
 But raise me higher on the lists of fame.—
 To social union I'm a steady friend,
 And oft I'm call'd upon my aid to lend,
 When secret caus's dire divisions make,
 Or when with violence sudden ruptures break ;
 And if you rightly should employ my pow'r,
 I make the union stronger than before.
 The village maid on festive May-day dress'd
 With kind affection takes me to her breast,
 To join the jocund train exulting flies,
 While conscious rapture sparkles in his eyes.—
 Nor yet alone upon the rural green
 In life's low vale with village maids I'm seen ;
 Mid higher scenes I hold an envy'd place,
 And courtly ladies lovely persons grace.—
 That tree, the pride of Britain's favour'd coast,
 Our nation's bulwark, and our sov'reign boast,
 Which rules the forest, monarch of the trees,
 And gives us empire o'er the subject seas,
 From me that hardy stubborn strength derives,
 No tempest shatters, and no bullet rives.—
 Greece's fam'd monarch by ambition fir'd
 To solve my mystic nature once aspir'd,
 Nor think Darian bards to whom I sing,
 The task unworthy of so great a king ;
 With cunning art, my dubious nature solv'd,
 In me was Asia's future fate involv'd.—
 My best most pleasing part is yet unsung,
 Hush'd be each breath ! be silent ev'ry tongue !
 For see what grand procession this way tends !
 Behold ! a God in saffron robe descends,
 A troop of swains and beauteous maids around,
 Perfum'd with roses and with chaplets crown'd ;
 While love displays his flaming torch on high,
 And waves his pinions with triumphant joy.
 I then am near—and crowds that suppliant bend
 Before the altar own me as a friend ;
 'Tis me they all with grateful thought approve,
 The choicest gift of Hymen and of love.

NEW REBUSES, CHARADES, and QUERIES.

I. REBUS, by Miss Betty Boys, of Stainton-Vale.

Half a colour gents you take,
 And join 't with dext'rous art,
 Into those—fishes of what we call,
 An introducer smart.

You then may pore with nicest skill,
 And view the modest flame ;
 So veil'd in darkness 'fore your eyes,
 And nourish'd up with shame.

II. REBUS,

II. REBUS, by Mr. John Fildes.

Two-thirds of a colour, three-fourths of a kiss,
Will name you a puzzle for master and miss.

III. REBUS, by Mrs. Althea Welbelmina Maken, of Liverpool.

If two angles you join, And two circles combine, And also five hundred unite;	There will clearly appear A most beautiful fair, Whose wit and good sense give delight
---	--

IV. REBUS, by Mr. John Stafford, Bingham.

Two things in nature soft and hard, Omitting the last letter,	Will name an enigmatic bard, Than whom pray who writes better
--	--

I. CHARADE, by Miss Betty Boys.

Before the balmy gales of spring Bedeck'd the woodland scene, My second on each bough did dwell, Else ne'er had they been green.	Just so my whole, ye lovely fair, In summer's lively dress, Springs from its parent, ere you see My fragrant first possess.
---	--

II. CHARADE, by Vicarius Hilariensis.

My first sings with glee, tho' in durance accurst,
My second's a beautiful tier,
My whole as a bailiff arrested my first,
Which no human laws can set free.

III. CHARADE, by Miss Nancy Mason, Clapham, Yorkshires.

Without my whole my first can ne'er be made;
My second's mostly found in the stable;
My first unto my whole so fast is ty'd,
To part us all the world's not able.

IV. CHARADE, by Mr. Stephen Wilkinson, Morpeth.

For thee, my first what risks are run, How many thousands are undone; My next a trusty guard at night,	To keep from harm till morning light My whole oft decks a blooming bride I am a beauty, and her guide.
--	--

I. QUERY, by Mr. Wm. Burdon, Acafter Malbis.

Clouds are sometimes seen moving in one direction, while others, either above or below them, are proceeding in a quite opposite direction: query a reason?

II. QUERY, by Mr. Colin Campbell, Kendal.

Does a candle consume faster by being frequently snuffed; and if so, how is it accounted for?

III. QUERY, by Miss Nanny Dent, Osman Flat.

Whether appears the more ridiculous in the eyes of the world, a pecked husband, or his wife.

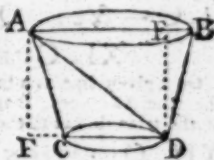
IV. QUERY, by the Rev. Mr. S. Vince, Cambridge.

There is a word in the English language, to which if you add a syllable it will make it shorter.

ANSWERS to the MATHEMATICAL QUESTIONS.

1. QUESTION (969) answered by the Rev. T. S. Rector
of Ormside.

First as $AB = 48 : AD + DB = 80 :: AD - DB$
 $= 20 : AE - EB = CD = 33\frac{1}{3}$, and $BE = \frac{1}{2} AB$
 $= \frac{1}{2} CD = 24 - 16\frac{2}{3} = 7\frac{1}{3}$; also the perp. DE
 $= \sqrt{BD^2 - BE^2} = \sqrt{30^2 + 7\frac{1}{3}^2} = \sqrt{846\frac{2}{9}} =$
 29.08989 . Then



$AB^2 + AB \times CD + CD^2 \times \frac{1}{3} DE \times .7854 = 48^2 + 48 \times 33\frac{1}{3} + 33\frac{1}{3}^2 \times$
 $\times 29.08989 \times .7854 = 5015\frac{1}{9} \times 9.69663 \times .7854 = 38193.7397$
cubic inches $= 135.4387$ ale gallons, the content of the tub.

So, let not Jack Gauge either grumble or grudge,
Should I, to James Wilding, the wagger adjudge.

The same answered by Mr Colin Campbell, Kendal.

Here ABCD representing the tub, draw the perpendiculars AF, ED;
then $\frac{AD^2 - DB^2}{AB} = AE - EB = CD = \frac{100}{3} = 33\frac{1}{3}$; and $AE = \frac{1}{2} AB$
 $+ \frac{1}{2} CD = 24 + \frac{50}{3} = \frac{122}{3} = 40\frac{2}{3}$; also the perp. $DE = \sqrt{AD^2 + AE^2}$
 $= 29.09$. Then by mensuration

$\frac{48^3 - 33\frac{1}{3}^3}{48 - 33\frac{1}{3}} \times .7854 \times \frac{29.09}{3} = 38193.89$ cubic inches; or 135.439
ale gallons, the content of the tub.

The same by Mr James Adams, of East Stonehouse, near
Plymouth.

Per question we have given the three sides of the triangle ABD, to find
the angles. — At pa. 125 of Emerson's Trig.

$\frac{BD^2 - AD - AB^2}{2 BAD} = \text{vers. } \angle BAD = \frac{900 - 4}{4800} = \frac{14}{75} = .18666, \&c.$

which by Hutton's tables corresponds to $35^\circ 35' = \angle BAD = ADC$. And

$\frac{AD^2 - AB - BD^2}{2 ABD} = \text{vers. } \angle ABD = \frac{2600 - 324}{2880} = \frac{34}{45} = .7555,$

&c. which corresponds to $75^\circ 52' = \angle ABD$; the supplement of which
is $104^\circ 8' = \angle ACD$. Hence by proportion,

$\sin. \angle C : \sin. \angle CAD :: AD : CD = 33\frac{1}{3}$, and

$\sin. \text{radius} : \sin. \angle B :: BD : DE = 29.09$. Whence the con-

ent of the tub $= AB^2 + CD^2 + AB \times CD \times DE \times .2618 = 38193.8926$
cubic inches $= 135.4393$ ale gallons.

N.B. At page 416 of Hutton's Mensuration there is a shorter method
for obtaining the above content; but supposing some of your contribu-
tors will resolve the question by that method, the above is given for the
sake of variety.

Other answers to this question, beside the above, and what are in the Supplement, were given by Messieurs Academicus, Amicus, W. Armstrong, Artuoso, W. Atkinson, Tim. Bailey, Geo. Baron, Rd Bennett, John Bickford, L. Bowden, John Boyse, John Bransby, John Bruce, Edw. Bruce, T. Bulmer, Wm Burdon, Ra Burton, John Campbell, John Cavill, John Chapman, I. Collins, John Craggs, Tho. Cram, Tho. Crayball, Hen. Collingworth, Rob. Cundall, Jos. Dautney, Wm Davis, Rd Dening, Da. Dimbleby, Wm Eton, Rd Elliott, L. Evans, T. S. Evans, J. Ewbank, Geo. Foy, J. Furness, Jos. Gittins, Ben. Gompertz, John Graham, Sam. Gauthorp, John Haycock, John Hawkes, Pb. be Hearwisd, T. Hewitt, John Honey, Tho. Hornby, John Hutberfal, J. Jackson, Jacobus, John Jones, J. Knight, I. Liddell, J. Malbit, Wm Marriot, Nancy Mason, Ja. Measor, Paul Measor, John Mends, Ja. Mulcaster, Wm Newby, Rd Nicholson, Wm Penn, Wm Pye, Tho. Ridout, Da. Roberts, Geo. Robinson, John Ross, Alex. Rowe, John Rutherford, John Ryley, Ja. Sandersen, Collan Skewes, John Surtees, Wm Swain, Tho. Thompson, Tho. Truswell, J. Walton, Wm Ward, W. Watts, Da. Whitehead, Ja. Wilding, Rob. Wilkinson, Tho. Woolson, and Jett Wright.

II. QUESTION (970) answered by the Rev. * L. Evans, Vicar of Froxfield, Wilts.

This question has an ambiguity in it. The relative *it*, in the last line, may either refer to the antecedent, *money laid out*, or to *improvements*. In either point of view, I shall give it a solution.

First, when the principal only is to be diminished by the influx at compound interest. — Put x = time sought, $a = 50$, $r = 1.05$, and $n = 5$; then by the common theorem

$$\frac{r^x - 1}{r - 1} \times n = a, \text{ or by logs. } x = \frac{\log. \frac{ar - a + n}{n}}{\log. r} = 8.31 \text{ years.}$$

Secondly, by considering the principal at compound interest to be constantly diminished by the influx of the yearly profit without interest. — Let $r = 1.05$, $n = 5$, $a = 50$, and x = time required. Then the yearly decrement of the principal will be thus expressed:

$ra - n$ the first year's principal,

$r^2a - rn - n$ the 2d year's,

$r^3a - r^2n - rn - n$ the 3d year's,

$r^4a - r^3n - r^2n - rn - n$ the 4th year's,

$ar^x - nr^{x-1} - nr^{x-2} \dots - nr^{x-x}$ the x year's; which by the nature of the question must be $= 0$; hence

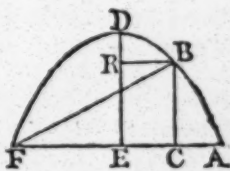
$$r^x = \frac{n}{a + n - ar}, \text{ and } x = \log. \frac{n}{a + n - ar} \div \log. r = 14.206 \text{ years.}$$

* This ingenious gentleman intends (as soon as a sufficient number of subscribers can be ascertained for defraying the expence) to publish, *The Mechanical Construction of Cata-dioptric Telescopes of the Cassgrain, Gregorian, and Newtonian form, &c;* with a description of the various tools and machines used in their fabrication. — Those who may be pleased to encourage the work, will please to favour him with their addresses, &c.

Solutions upon one or other of these principles were also given by Messieurs Adams, Amicus, Armstrong, Baron, Bennet, Bickford, Bulmer, Burton, C. Campbell, J. Campbell, Cavill, Collins, Craggs, Cressoball, Davis, Eaton, Elliott, T. S. Evans, Ewbank, Furniss, Haycock, Honey, Hornby, Hutersal, Jackson, Knight, Liddell, Mabbitt, Marriott, Nancy Mason, P. Measor, P. Measor, Mulcaster, Nicholson, Pearson, Ridout, Roberts, Rowe, Rutherford, Ryley, Skewes, Surtees, Thompson, Walton, Watts, Wilkinson, and Wright.

III. QUESTION (971) answered by the Rev. Mr Ewbank, of Thornton-Steward.

Put $DE = a$, $AE = b$, $AC = x$; then $FC = 2b - x$; and by Conics, $b^2 : a :: 2b - x \times x : a \times \frac{2bx - xx}{bb} = BC$; this multiplied by x , and the



fluent taken, gives $\frac{ax^2}{b} - \frac{ax^3}{3b^2} =$ the area of the space ABC; also the area of the triangle $BCF = \frac{1}{2}FC \times BC = \frac{ax}{2b^2} \times (2b - x)^2 = 2ax - \frac{2ax^2}{b} + \frac{ax^3}{2b^2}$; this added to the former or space ABC, gives $2ax - \frac{ax^2}{b} + \frac{ax^3}{6b^2} = \frac{1}{6}x^3 - 3x^2 + 30x = 60$ by the question, being the area of the space ABF. Hence $x = 2.63$ chains; and then $\sqrt{FC^2 + BC^2} = BF = 13.76$ chains, the length of the line required.

The same answered by the Proposer Mr Wm Armstrong.

Let FB represent the required line. Draw BR parallel to AF, and let fall the perpendicular BC. Put $a = AE = 5$, $b = DE = 15$, $x = EC$, and $y = BC$. Then by Conics, as $b : a :: a : p = \frac{5}{3}$ the parameter; and as $p : a + x :: a - x : y = \frac{a^2 - x^2}{p} = \frac{a^2 - x^2}{a^2} \times b$. Now the area of the semiparabola ADE is $= \frac{2}{3}ab$; and the area of the part RDB $= \frac{2}{3}DR \times RB = b - y \times \frac{2}{3}x$; also the area of the rectangle ERBC is $= xy$; therefore $\frac{1}{3}xy + \frac{2}{3}bx =$ area of the space EDBC, which taken from ADE or $\frac{2}{3}ab$, leaves $\frac{2}{3}ab - \frac{1}{3}xy - \frac{2}{3}bx =$ area of the part ABC, to this adding the triangle FBC $= \frac{1}{2}FC \times BC = a + x \times \frac{1}{2}y = \frac{1}{2}ay + \frac{1}{2}xy$, gives $\frac{2}{3}ab + \frac{1}{2}ay + \frac{1}{6}xy - \frac{2}{3}bx =$ the space FBA, which is also, by the question, $= \frac{2}{3}$ of FDA $= \frac{2}{3} \times \frac{4}{3}ab = \frac{8}{9}ab$, that is $\frac{2}{3}ab + \frac{1}{2}ay + \frac{1}{6}xy - \frac{2}{3}bx = \frac{8}{9}ab$, or $\frac{1}{2}ay + \frac{1}{6}xy - \frac{2}{3}bx = \frac{2}{9}ab$; in this equation substitute the value of y , viz. $\frac{a^2 - x^2}{a^2} \times b$, and it becomes $\frac{a^2 - x^2}{2a}b + \frac{a^2 - x^2}{6a^2}bx - \frac{2}{3}bx = \frac{2}{9}ab$, or by reduction $x^3 + 3ax^2 + 3a^2x = 2\frac{1}{3}a^3$, and by adding a^3 to complete the cube, it

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V. QUESTION (973) answered by Mr Tho. Simpson Evans,
 Odiham.

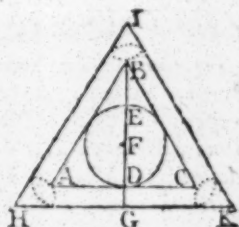
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The side of an equilateral triangle being 1, it is evident that its perp. BD is $\sqrt{1 - \frac{1}{4}} = \sqrt{\frac{3}{4}} = \frac{1}{2}\sqrt{3}$, its area $= AD \times BD = \frac{1}{4}\sqrt{3} = .4330$ the am. D E of its inscribed circle $= \frac{2}{3} BD = \frac{1}{3}\sqrt{3}$, and the area of the inscribed circle $= \frac{1}{2} \times .7854 = .2618 =$ the area of its similar surrounding walk; the sum of these two areas is .6948, which is the area of a like equilateral triangle surrounding the former. Then, linear dimensions being as the square roots of the areas, it will be $\sqrt{.4330} : \sqrt{.6948} :: FD = \frac{1}{6}\sqrt{3} = .2887 : .3657 = FG$, the radius of a circle inscribed in the outer triangle; and the difference .0770, is the breadth of the similar walk; and so as $.4330 : \sqrt{10000}$ or 100 :: .0770 : 11.701, the breadth of the walk is eight, when it is considered as the space between the sides of two complete equilateral triangles.



But if the proposer, by the words, "every where of the same breadth," means that the corners of the outer triangle should be rounded off by circular arcs, as in the figure marked with dotted arcs, then the walk must be made wider, to make up the same space as the area of the inscribed circle. Now, in this case, it is evident that the walk is made up of three parallelograms and three small circular sectors, of the common breadth of the walk, and the length of the parallelograms equal to the side of the inner triangle. It is farther evident that each of the circular sectors is one-third of a circle, and therefore the three together just equal to a circle whose radius is the breadth of the walk. Hence, if x denote the breadth of the walk, and $p = .7854$, then $4px^2$ is the area of the three circular sectors; also if $a = \sqrt{\frac{10000}{.4330}} = 151.9671 = AB$ or AC the side of the given triangle, then $3ax =$ the three parallelogram; consequ. $4px^2 + 3ax =$ the whole area of the walk in this case. But as $1 : \frac{1}{2}\sqrt{3} :: \frac{1}{2}\sqrt{3} : \frac{1}{2}\sqrt{3}$ = the diameter of the inscribed circle, and therof. the area of that circle is $\frac{1}{2}pa^2$, which is also equal to the area of the walk, by the definition; hence then $4px^2 + 3ax = \frac{1}{2}pa^2$, a quadratic equation which gives $x = 12.2307$, the breadth of the walk in this latter case.

Ingenious answers were also given by Messieurs Adams, Amicus, Armstrong, Artufo, Bailey, Baron, Bennett, Bickford, Bysse, Bransty, Ed. Bruce, J. Bruce, Bulmer, Burten, Burdon, C. Campbell, J. Campbell, Cavill, Craggs, Collins, Cram, Craxoball, Davis, Dimbleby, Eaton, Elliott, E. Evans, Fowbank, Foy, Furnass, Gittins, Gompertz, Harwood, Haycock, Herriot, Honey, Hornby, Jackson, Jacobus, Jones, Knight, Liddell, Mabbott, Nancy Mason, J. Measor, P. Measor, Mends, Mountjoy, Mulcaster, Newby, Nicholson, Pearson, Penn, Pritty, Roberts, Robinson, Ross, Rowe, Rutherford, Ryley, T. S. Sanderson, Skerrett, Sturtz, Swain, Thompson, Truswell, Walkin, Watts, Wilkinson, and Wright.

VI. QUESTION (974) answered by Amicus.

Let $a^4 + 2a^2b^2 - b^4$, $a^4 + b^4$, and $b^4 + 2a^2b^2 - a^4$ be the three numbers; then the squares are necessarily in arithmetical progression, the common difference being $4a^2b^2 \times a^4 - b^4$: hence the three sums will be $a^2 \times 2a^2 + 2b^2$, $b^2 \times 2a^2 + 2b^2$, and $4a^2b^2$.

The last is evidently a square, and the two first will be squares when $2a^2 + 2b^2$ is a square, which, as is shewn by many writers on this subject, will be when $a = 2mn + m^2 - n^2$ and $b = 2mn - m^2 + n^2$; these substituted for a and b in the above values of the three numbers, will give general theorems for infinite answers, m and n being any whole numbers at pleasure, provided $2a^2b^2$ be greater than $a^4 - b^4$, or $5n$ exceed $4m$. Ex. Gr. let $n = 6$, and $m = 5$; then $a = 71$, $b = 49$, and 4385536 , 31176482 , and 4560002 are the three numbers, their three sums being respectively equal to the squares whose roots are 8662 , 6958 , and 5978 .

This question was also answered by Messieurs Armstrong, Bulmer, Cragg, Crawball, Cunliffe, Gompertz, Haycock, Mabbott, Pearson, Rowe, Skewes, Thompson, and Wright.

VII QUESTION (975) answered by Mr. John Ryley, Leeds.

If the length, breadth, and depth of the cistern be in arithmetical progression; put the content in inches $= 23970 = a$, the length $= x + y$, the breadth $= x$, and the depth $= x - y$; then the content $x^3 - xy^2 = a$, and the internal surface $5x^2 - xy - 2y^2$ to be a minimum. From the former $y^2 = \frac{x^3 - a}{x}$, and $y = \sqrt{\frac{x^3 - a}{x}}$; which being substituted for y^2 and y in the expression for the minimum, it becomes, $3x^2 - \sqrt{x^3 - a} + \frac{2a}{x}$; this put into fluxions and reduced, we obtain $12x^2 - 232ax^6 + 111a^2x^5 - 16a^3 = 0$.

Now take $v = x^3$, and put the equation into numbers, so shall it be transformed to $v^3 - 43445\frac{5}{8}v^2 + 498252030\frac{1}{8}v = 172152800662$. Hence $v = 27806.00997$, $x = 30.2956$, and $y = 11.2525$; therefore the dimensions of the cistern are 41.5481 , 30.2956 , and 19.0431 ; and the content of the lead $= 798.99538$ cubic inches.

Almost exactly the same as the above was the solution given by Mr T. Bulmer and Mr John Craggs.

The same otherwise answered by Amicus.

Since the lead is so thin, its quantity will be a minimum, nearly, when the internal surface is a minimum. Let $x + y$, x , and $x - y$, be the three dimensions of the cistern; then its content $23970 = x^3 - xy^2$, hence

$$2x^2\dot{x} - y^2\dot{x} - 2xy\dot{y} = 0, \text{ or } \frac{\dot{y}}{\dot{x}} = \frac{3x^2 - y^2}{2xy};$$

also its surface $= 5x^2 - xy - 2y^2$ a minimum, hence

$$\frac{\dot{y}}{\dot{x}} = \frac{10x - y}{4y + x} = \frac{3x^2 - y^2}{2xy}, \text{ and } \frac{3x^3}{y^3} - \frac{8x^2}{y^2} + \frac{x}{y} = 4, \text{ or } \frac{x}{y} = 2.725$$

which gives the cistern in specie; whence the dimensions are readily found.

Answers to this question were also given by Messieurs Armstrong, Artuso, Campbell, J. Campbell, Cavill, Crawball, Eaton, Evans, Foy, Furness, Haycock, Huibersal, Jackson, Liddell, Marriot, Mulcaster, Nicholson, Roxe, Rubberford, Shewes, and Surtees.

VIII. QUESTION (976) answered by Mr John Wright, Westhoughton.

The particles of the fluid (setting aside all consideration of friction, &c.) are impelled down the drains, in the same manner as a heavy body falling down an inclined plane. And it is well known that the times of falling down different inclined planes, are to each other, as their lengths exactly, and the square roots of their heights inversely. Therefore the time of the water's running down the longer drain, will be to that of the shorter, as $\frac{2}{\sqrt{12}} : \frac{1}{\sqrt{3}} :: 1 : 1$. Hence it appears that the water will in the length of the longer sewer, in the same time it does that of the shorter; but it is evident that the longer sewer will have double the effect of the shorter, in as much as the water runs through it with twice the velocity.

The same answered by Mr Wm Pearson, North Shields.

Let AC = 10560 feet (or two miles) the length of the longer sewer, and AD = 12, its perpendicular fall; then by sim. triangles AD : AC :: AC : AB = 9292800. Now, by the laws of falling bodies, a body will descend through the chord AC in the same time that another descends through the diameter AB. Hence $16 \frac{1}{12} : 1^2 :: 9292800 : 577790.67$, the square root of which is 760", or 12 min. 40 sec. the time of falling.



Again, let AC = 5280 feet (or 1 mile) the length of the shortest sewer, and Ad its descent = 3; and by sim. triangles as before, Ad : Ac :: Ac : AB = 9292800, the same as before. — From hence it is evident that each sewer will evacuate an equal quantity of water in the same time; but the shortest sewer will have the advantage, on account of repairing and cleaning, &c.

Other answers were given by Messieurs Adams, Armstrong, Artuso, Bennett, Fulmer, Burdon, Burton, Cavill, Craggs, Davis, Eaton, Ewbank, Furness, Gompertz, Haycock, Hewitt, Hornay, Heundall, Jackson, Jacobus, Liddell, Marriot, Nicholson, Robinson, Ross, Roxe, Rubberford, Ryley, Walton, and Wilkinso.

IX. QUESTION (977) answered by the Rev. Mr Ewbank, of Thornton-Steward.

Let x and y represent the digits; then $10x + y$ expresses the first chapter, and $10y + x$ the second. But $(10x + y)^2 - (10y + x)^2 = 99x^2 - 9y^2 = 1485$, or $x^2 - y^2 = 15$. If $y = 1$, and the equation be reduced, $x = 4$, and the required chapters will be 41 and 14. As these numbers answer the other condition of the question, they are consequently

the true ones. Hence the first lesson was Isaiah 41 chapter, and the second Acts the 14th chapter; the time being the 14th day of December.

The same by the Rev. T. S. Rector of Ormside.

Put x for the digit in the ten's place, and y for that in the unit's. Then will $10x + y$ represent the first lesson, and $10y + x$ the second. But, by the question, $\overline{10x + y}^2 - \overline{10y + x}^2 = 1485$, that is $99y^2 - 99x^2 = 1485$, or $x^2 - y^2 = 15$. From this equation, it is evident, without farther investigation, that as $x^2 - y^2$ must be 15, and x and y whole numbers, that the numbers can be no other than 4 and 1.

Theref. $10x + y = 41$ the first lesson } appointed, in the morning service
and $10y + x = 14$ the 2nd lesson } for the 14th day of December.

Thus I've turn'd out your lessons, with very small pains,
Without trouble of cubing, or cracking my brains.

The same answered by Amicus.

Since $1485 = x^2 - y^2$, and $66177 = x^3 - y^3 = x - y \times x^2 + xy + y^2$, their greatest common measure must be $x - y$, and the greatest common measure of the numbers being 27, $x - y = 27$, $x + y = 55$, $x = 41$, $y = 14$, and the day December the 14th.

This question was also answered by Messieurs Academicus, Adams, Armstrong, Artuso, Bailey, Baron, E. Bruce, F. Bruce, Bulmer, Burdon, Burton, C. Campbell, F. Cambell, Carvill, Collins, Craggs, Cram, Crawhall, Cundall, Davis, Eaton, L. Evans, Fey, Furnass, Gompertz, Haworth, Haycock, Hewitt, Henry, Hornby, Jackson, Jacobus, Jones, Liddell, Mabbett, Marrant, Nancy Mason, J. Measer, P. Measer, Mendis, Newby, Nicholson, Pearson, Penn, Philo, Priety, Roberts, Robinson, Rowe, Rutherford, Ryley, Skewes, Surtees, Swain, Thompson, Vase, Walton, Watts, Webb, Winkleson, and Wright.

X. QUESTION (978) answered by Mr John Dalton, Kendal.

The quantity of rain that falls into any given vessel, must evidently be as the area of the orthographic projection of the vessel's aperture upon a plane at right angles to the falling rain; when the aperture is a circle, its projection is necessarily an ellipse, whether the vessel be on a level or not, whose transverse axis is always equal to the diameter of the circle, and whose conjugate is to its transverse as the cosine of the inclination of the planes of the projection and of the aperture, to radius. — The question then is, to determine the ratio of the cosines of two angles, the one made by the intersection of the plane of projection and plane of the aperture of the vessel, the other by that of the projection and horizon; for the quantity of water caught and the acquired quantity, will be respectively as their cosines.

In order to which it may be convenient to consider the three planes as great circles of a sphere, having a common centre, the intersection of the circumferences of which circles constitute a spheric triangle, the angles of

which are those of the intersections of the planes.—
Let ABC be the triangle; the angle at A = the given
inclination of the plane of projection to the horizon,
the side AB = the given arc of the horizon, between
the point of the wind and the common intersections of
the planes of the gauge and horizon; the angle C = the



required angle of intersection of the planes of the projection and gauge.—
Putting s and c for the sine and cosine of angle A , d and b for the sine,
and cosine of angle B , C for the cosine of the side AB , then, by
spherics, $dsC - bc =$ the cosine of the angle at C , radius being 1.

Whence $dsC - bc : q :: b : \frac{bq}{dsC - bc} =$ the required quantity of

water; which is a general theorem for all cases.—To apply this to the
case in question, we have $\angle A = 50^\circ$, and $s = .0871557$, $c =$
.9961947; $\angle B = 60^\circ$, and $d = .8660254$, and $b = .5$; side $AB =$
 45° , and $C = .7071068$; where $dsC - bc = -.4447256 =$ cosine of
 $\angle C$; but the supplement must be used here, and consequently the sign

must be changed; and $\frac{bq}{dsC - bc} = 1.12429 \times q$ as required.

COROL. 1. If it be required to find in what direction the wind must
blow, when the quantity caught is neither too little nor too great, we
must put $dsC - bc = b$, in which case one of the cosines, b or C , must
be negative; and the resulting equation is $C = \frac{1-c}{d} b$.

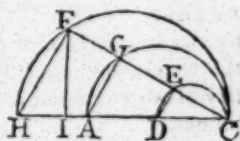
COROL. 2. The redundancy or deficiency will be greatest when the
direction of the wind is at right angles to the common section of the planes
of the gauge and horizon; for, from the nature of the case, d is less
than c , and s less than b ; wherefore ds and consequently dsC , is less
than bc ; the difference then will be a maximum or minimum, when
 $dsC = 0$, that is, when $C = 0$, or $AB = 90^\circ$.

COROL. 3. The higher the wind, or the more obliquely to the horizon
the wind falls, all other circumstances being the same, the greater is the
error: and if the direction of the wind be as in the last corollary, and
then it strike the horizon at an angle equal to or less than the inclination
of the plane of the gauge to the horizon, and on the side where the gauge
is too high, there will be no rain at all caught, whatever quantity fall.

Answers to this question were also given by Messieurs C. Campbell, Cragg,
Playcock, Rowe, Pyley, and Wriggitt.

XI. QUESTION 979, answered by Mr John Carvill.

It is well known that if any line CEG be
drawn from the point of contact C , cutting the
given circles in E and G ; the parts CE , EG ,
intercepted by the peripheries, will always be in
the constant ratio of CD to DA . For the



same reason, if CG be produced to F , as per question, the locus of the
point F will also be a circle whose diameter is triple of CD , and conseq.
the area is nine times the area of CED .—See Theor. I. Cor. 4 and 6,

the solu. to quest. 12 art. 35 of Hutton's Mathematical Miscellany, where Cap. Williams has elegantly demonstrated several of the like nature.

The same answered by Mr Geo. Baron, South Shields.

Because $CD = DA = AH$, and $CF = EG = GF$, by the question, theref. the lines DE , AG , HF (being drawn) are parallel. And as the angles E and G , being in semicircles, are right angles, therefore F is also a right angle, and conseq. is in a semicircle, that is, the locus CFH is a semicircle.

Or thus: Draw FI perp. to CH ; and put $CH = 3CD = d$, $CI = x$, and $IF = y$; then $HI = d - x$, and by sim. triangles, $CI : IF :: IF : IH$, that is, $x : y :: y : d - x$, or $dx - x^2 = y^2$, the equation of the circle, whose area is well known.

Mr. W. Armstrong refers to Simson's Apollonius Loc. Plan. where it is shewn the circles and the point C may have various other positions.

Ingenious answers were also given by Messieurs Amicus, Armstrong, Bulmer, Campbell, Grages, Elliott, Haycock, Huthersal, Liddell, Nickolfus, Robinson, Rowe, Rutherford, Ryby, Sherwin, and Wright.

XII. QUESTION 980; answered by Amicus.

The sun's declination on the given day was $18^\circ 19'$ north, the meridian altitude in lat. $54^\circ 10'$ was $54^\circ 9'$, its complement $35^\circ 51'$, whose tangent is 7225502 ; and when the declination was $18^\circ 19'$ south the compl. of meridian altitude was $72^\circ 29'$, whose tangent is 31683808 ; and as $31683808 - 7225502 = 24458306$; transv. axis $= 245 :: 1 : 100 \cdot 170466 =$ the tree's height; also as $1 : \text{tree's height} :: \text{tang. } 35^\circ 51' : \text{its dist. nce from the vertex of the hyperbola} = \text{mid-day shadow} = 72 \cdot 6738756 =$ the abscissa. Moreover, the amplitude $= 32^\circ 28'$, and cotang. ampl. $\times$ transverse $=$ the conjugate axis $= 385 \cdot 0671$; whence the area to the abscissa $72 \cdot 6738756$ becomes known.

The same answered by Mr T. Bulmer, Sunderland.

Put $c =$ cosine of the lat. $d =$ sine and $p =$ cosine of the declination, a & x the height of the tree. Then, by Simpson's Dissertations pa. 156, we have $\frac{2pdx}{c^2 - d^2} = 245$ the given trans-



verse, whence $x = \frac{245c^2 - 245d^2}{2pd} = 100 \cdot 18$ feet, the height of the

tree. — Now the altitude of the sun's upper limb when on the meridian (allowing for refraction and parallax) is $54^\circ 24' 24''$, and the altitude when due east (allowing as before) is $23^\circ 2' 21''$. Let A and B be the east and west points of the horizon, E where the tree stands; then the ord-nate AE or EB , the length of the shadow, when east or west, will be $235 \cdot 5472$, and the absciss $CE = 71 \cdot 69989$, or length of the shadow at twelve o'clock; and the conjugate diameter to the curve is $382 \cdot 96453$; and hence the area $21462 \cdot 3239$.

N. B. The foregoing calculation is made by allowing for semidiameter, refraction, and parallax.

This question was also answered by Messieurs Armstrong, Baron, Craggs, Eaton, Elliott, Haycock, Jacobus, Liddell, Mends, Rowe, Rutherford, Ryley, Surtees, and Wright.

XIII. QUESTION (981) answered by the Rev. Mr J. Hellins.

The value of z may be brought out in this series

$$\frac{x}{1+x^3} + \frac{3x^4}{4 \cdot 1+x^3} + \frac{3 \cdot 6 \cdot x^7}{4 \cdot 7 \cdot 1+x^3} + \frac{3 \cdot 6 \cdot 9 \cdot x^{10}}{4 \cdot 7 \cdot 10 \cdot 1+x^3} + \&c.$$

which it is evident needs no correction, and always converges; and therefore may be considered as an answer to the question. But yet, when x is much greater than 1, its convergency will be very slow; for instance, if x be only $= 10$, the quantity whose powers are to be used in this series

will be $\frac{1000}{1001}$, which will converge two slowly to be useful; we must

therefore look for some other form of series in this case. Now it will appear, by operations similar to those in my Essays, p. 105 and 106, that the correct value of z is $=$

$1.2092 - \frac{1}{2x^2} + \frac{1}{5x^5} - \frac{1}{8x^8} + \frac{1}{11x^{11}} \&c.$ a few terms of which series, where $x = 10$, will give the result more exact than 100.0 terms of that above exhibited.

But still, when x^3 is $= \frac{1+\sqrt{5}}{2}$, or $\frac{13}{8}$ nearly, neither of these series will converge very swiftly; but since, when x is greater than 1, the correct value of z is $= 1.2092 - x \times :$

$$\frac{1}{2} \cdot \frac{x^3+1}{x^3+1}^{-1} + \frac{3}{2 \cdot 5} \cdot \frac{x^3+1}{x^3+1}^{-2} + \frac{3 \cdot 6}{2 \cdot 5 \cdot 8} \cdot \frac{x^3+1}{x^3+1}^{-3} + \frac{3 \cdot 6 \cdot 9}{2 \cdot 5 \cdot 8 \cdot 11} \cdot \frac{x^3+1}{x^3+1}^{-4} \&c.$$

we shall, even in this case, obtain a proper degree of convergency; for x^3 being $= \frac{13}{8}$ nearly, x^3+1 will be $= \frac{8}{21}$ nearly, which differs

but little from $\frac{8}{13}$; so that, with this value of x^3 , the last series converges about twice as fast as either of the former ones.

REMARK 1. We have three forms of series for computing the value of z , the first of which will always converge when x is affirmative; the second, on account of the simplicity of its co-efficients, is the most convenient for computing the value of z when x is much greater than 1; and the third is the best form for computing the value of z when x is but a little greater than 1.

REM. 2. With respect to the constant quantity in the second and third forms, by which the fluent is corrected, it is obtained by taking the difference of z given by the first and third series when $x=1$. It is also equal the sum of the two series

$1 - \frac{1}{4} + \frac{1}{7} - \frac{1}{16} \&c.$ and $\frac{1}{2} - \frac{1}{3} + \frac{1}{8} - \frac{1}{11} \&c.$ which may be easily computed by the method explained in Dr. Hutton's Tracts, tract, 2. pa. 11.

The same answered by Amicus.

The given expression, by substituting $1+u = \frac{1+2x+x^2}{1-x+x^2}$, and

$$y = \sqrt{1-x+x^2} \times \frac{x}{\sqrt{1-x+x^2}}, \text{ becomes } z = \frac{1}{6} \times \frac{u}{1+u} + \frac{1}{\sqrt{3}} \times \frac{\dot{y}}{\sqrt{1-y^2}},$$

where, both the members being such well known forms, the application of series seems unnecessary; but if it must needs be done by them, the fluent of the latter member, since y is less than unity, will converge, and may be made to do so very swiftly, by applying art. 350 of Simpson's Fluxions. In the former member, if x be not greater than $2 + \sqrt{3}$, u will be greater than unity, in which case, let $1+u = c + w$, so that w may

not be greater than unity, and the correct fluent of $\frac{w}{c+w}$ in series will be

$$\frac{w}{c} - \frac{w^2}{2c^2} + \frac{w^3}{3c^3} - \frac{w^4}{4c^4}, \&c. = \frac{d}{c} + \frac{d^2}{2c^2} - \frac{d^3}{3c^3} + \frac{d^4}{4c^4}, \&c.;$$

where d is the value of w where $x=0$ and $u=0$; thus, if $w=1$ and $c=2$, the correct fluent of

$$\frac{1}{6} \times \frac{w}{c+w} \text{ is } \frac{1}{3} \times \left(\frac{1}{2} + \frac{1}{3.8} + \frac{1}{5.32} + \frac{1}{7.128} + \&c. \right), \text{ and } z = 1.090009 \text{ nearly.}$$

This question was also answered by Messrs. Craggs, M^r Fries, Rowe, Ryley, and Thompson.

XIV. QUESTION (982) answered by Amicus, the proposer.

Answer, $x = 2 \cos. z$. — For then $\dot{x} = 2 \cos. \dot{z}$, $\ddot{x} = 2 \cos. \ddot{z}$, $\dot{z} = \frac{\cos. \dot{z}}{\sin. z} - \cos. \dot{z} = \dot{z} \times \sin. z$, $\dot{x} = -2 \dot{z} \times \sin. z$, $-\cos. \ddot{z} = \sin. \dot{z} \times \dot{z} = \dot{z} \times \cos. z$, $\ddot{x} = -\dot{z}^2 \times 2 \cos. z - x \dot{z}^2 = -\dot{z}^2 \times 2 \cos. z$, and $\frac{2 \dot{x} \dot{z}}{t} = -2 \dot{z}^2 \times \frac{2 \sin. z}{t} = -4 \dot{z}^2 \times \cos. z$. Therefore, &c.

The same answered by Capt. Mudge, of the Artillery.

The given equation being $\ddot{x} - x \dot{z}^2 = \frac{2 \dot{x} \dot{z}}{t}$; if there be taken $y = \cosin. z$, then $t = \frac{-\dot{y}}{y z}$, hence $\ddot{x} - x \dot{z}^2 = \frac{-2 \dot{x} y \dot{z}^2}{\dot{y}}$; but $\dot{z} = \frac{-\dot{y}}{\sqrt{1-y^2}}$, and $-\dot{y} = \dot{z} \sqrt{1-y^2}$; making $\dot{z}$ constant, this gives $\dot{y} = \frac{y \dot{y} z}{\sqrt{1-y^2}} = -y \dot{z}^2$; and substituting for $\dot{z}^2$ its value $\frac{-\dot{y}}{y}$, we get $\ddot{x} + \frac{x \dot{y}}{y} = \frac{2 \dot{x} \dot{y}}{y}$, which gives $x = 2y$.

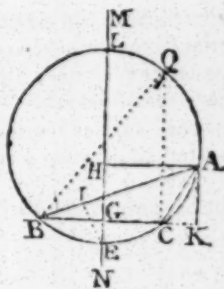
Other answers were given by Messieurs Craggs, M^r Fries, and Wright.

XV. or PRIZE QUESTION, answered by James

Glenie, Esq;

Let the given base BC be bisected in G by the perp. NM ; upon which take $GE = \frac{1}{3}GB$, $GH = GC$, $HL = 2GB = BC$; upon the diameter LE describe a circle cutting HA parallel to BC in A , the vertex of the required triangle ABC .

For it is evident that $GL = \frac{3}{2}BC$, $GE = \frac{1}{6}BC$, $HE = \frac{5}{6}BC$, and HA or $GK = BC\sqrt{\frac{2}{3}}$ (by 13 Eucl. 6). Also $BK = BC \times \frac{1}{2} + \sqrt{\frac{2}{3}}$, and $CK = BC \times \sqrt{\frac{2}{3}} - \frac{1}{2}$. Therefore $BA^2 = BC^2 \times \frac{7}{6} + \sqrt{\frac{2}{3}}$ (47 Eucl. 1). and $BA = \frac{1}{2}BC \times 2 + \sqrt{\frac{2}{3}}$. In like manner, $AC = \frac{1}{2}BC \times 2 - \sqrt{\frac{2}{3}}$. Whence the whole is manifest, for $2 + \sqrt{\frac{2}{3}} + 2 - \sqrt{\frac{2}{3}} = 4$.

COR. 1. $GK = BA - AC$.COR. 2. $BA + AC = 2BC$.

COR. 3. If CQ be perp. to BC , the cubes on BQ and QC are together equal to seven times the cube on BC . Also $BQ + QC = 3BC$, and $BQ - QC = \frac{1}{3}BC$.

The same, by Mr W. Armstrong, Newcastle-upon-Tyne.

Draw BC = the given base, which bisect in G ; make $GK = BC\sqrt{\frac{2}{3}}$, and at K erect the perp. $KA = BG$; join AB , AC , and ABC will be the required triangle.

For (by 47 Eucl. 1) $AB^2 = BK^2 + AK^2 = BG^2 + 2BG \cdot GK + GK^2 + BG^2 = BC^2 \cdot \frac{7}{6} + \sqrt{\frac{2}{3}}$, or $AB = BC\sqrt{\frac{7}{6} + \sqrt{\frac{2}{3}}} = BC \cdot \frac{1}{2} + \sqrt{\frac{2}{3}}$. Also $AC^2 = CK^2 + KA^2 = BG^2 - 2BG \cdot GK + GK^2 + BG^2 = BC^2 \cdot \frac{7}{6} - \sqrt{\frac{2}{3}}$, or $AC = BC \cdot \frac{1}{2} - \sqrt{\frac{2}{3}}$. Now it is obvious that if AB and AC be each cubed and added together, all the terms except the first and third in each will destroy each other, viz. $AB^3 + AC^3 = BC^3 \times 2 + 1 = 3BC^3$.

The same, by Mr Tho. Thompson, of Norley.

Let BC be the given base = 200; take a line M a mean proportional between BC and $\frac{1}{6}BC$; on BC describe a triangle such, that the side $AB = BC + M$, and $AC = BC - M$, and the thing is done.

For let fall the perp. It is well known that $AB^3 + AC^3 = 2BC^3 + 6M^2 \times BC$; and by constr. $6M^2 = BC^2$, therof. $AB^3 + AC^3 = 3BC^3$, one of the conditions.—Again, $BC : AB + AC (2BC) :: AB - AC (2M) : 4M$, hence $BK = \frac{1}{2}BC + 2M$; and by (47 Eucl. 1) $AK^2 = AB^2 - BK^2 = \frac{BC + M}{2}^2 - \frac{1}{4}BC + 2M)^2 = \frac{1}{4}BC^2 - 3M^2 = \frac{1}{4}BC^2$, or $AK = \frac{1}{2}BC = 100$, the given perpendicular,

The same answered by Nondum, Esq;

Questions of this kind may be made as follows: Let the base of triangle be $= b$, the sum of the other two sides $= mb$, and the sum of their cubes $= nb^3$: Then the difference of the sides will be $b\sqrt{\frac{4n-m^3}{3m}}$; where $\frac{4n-m^3}{3m}$ may be any positive number with the following limitations:—Since, from the nature of the question, m must always be greater than unity, it follows that n must be greater than $\frac{1}{4}m^3$ and because $b^3 \times \frac{1}{4}m^3 + \frac{3}{4}m^3$ is the greatest limit of the sum of the cubes of the sides, it is evident that n must be less than $\frac{1}{4}m^3 + \frac{3}{4}m^3$.

The two least whole numbers for m and n (unity excepted) will answer the question: Let $m = 2$, and $n = 3$; then the diff. of the sides will be $\frac{2b}{\sqrt{6}}$, and the sides themselves $b + \frac{b}{\sqrt{6}}$ and $b - \frac{b}{\sqrt{6}}$, and the perp. $=$

$\frac{1}{2}b$ as given by the question. For by Trigonom. $b : 2b :: \frac{2b}{\sqrt{6}} : \frac{4b}{\sqrt{6}}$ twice the dist. of the perp. from the middle of the base; hence the greater segment $= \frac{1}{2}b + \frac{2b}{\sqrt{6}}$; therefore $b + \frac{b}{\sqrt{6}} - \frac{1}{2}b + \frac{2b}{\sqrt{6}} =$

the square of the perpendicular: In this manner, when the values of m and n are chosen within the above limits, the perp. and thence the area may be determined.

If $m = 3$, then the least whole number for n will be 7; and the three sides of the triangle will be b and $1\frac{1}{3}b$, and $1\frac{2}{3}b$, and the triangle is right angled.

This question was also answered by Messieurs Amicus, Bulmer, Burdon Craggs, Craxhall, Dixon, Griffith, Hartley, Honey, Lowry, Lifanfull, M-Fries, Nancy Mason, Mulcaster, O'Connor, Rowe, and Wright. See also Solutions in the Supplement.

NEW QUESTIONS.

I. QUESTION (984) *by Miss Nancy Mason, of Clapham.*

Dear Ladies fair, I pray declare,
in Dia's page next year,
When first it was I 'gan to pass
My time upon this sphere.

My age so clear; the first o'th' year,
In years, in months, and days,
With ease you'll find, by what's subjunct
Exact the same displays.

* $\begin{cases} xy + z = 238 \\ xz + y = 158 \\ x + y + z = 39 \end{cases}$ } Where $x =$ the years, $y =$ the months, and $z =$ the days of my age, the 1st of January, 1795.

II. QUESTION (985) *by Mr J. Jackson, of Hutton-Radby.*

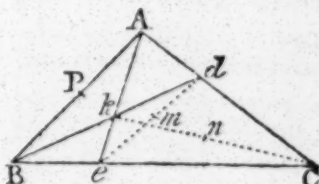
If a person borrow any sum of money at Five per Cent. per annum, compounded interest; and lend it again at the same time at Ten per Cent. per annum, simple interest in what time will the balance of interest be at the least?

I. QUESTION (986) by Mr Rob. Wilkinson, North-Shields.

Within a rectangular garden, whose length is four chains, and breadth three chains; there is a piece of water in form of a trapezium, whose opposite angles are in a direct ratio with those of the garden, and the respective distance of the angles of the one, from those of the other, are 20, 25, 40, and 45 yards, in a successive order, required the area of the water.

II. QUESTION (987) by Mr J. T. Connor, Leazes Academy.

In a triangle ABC, drawing any two lines Ae, Bd, from the extremities of one side, to terminate in the other two sides; and thereby form a trapezium Cde; if the diagonals de and Ck of that trapezium be bisected in the points m and n, and the line of the triangle in the point P,



the three points P, m, n, will be in a straight line. Required the demonstration.

III. QUESTION (988) by Mr T. Woolson, Adderbury Academy.

An honest old Mafier had a bushel much above the standard, but as he loved good ale, was unwilling to hurt the cause by short measure; however, there having long been a quarrel about buying and selling by the legal Winchester bushel, he with some reluctance ordered a workman to shave down his old bushel. Having reduced the depth to precisely eight inches, he went about proving it, by the weight of water it should hold; but having forgot that the weight ought to be, he left it standing brimful, till the exciseman came, who when he went to gauge it, the sun shining upon it, he observed that the shadow of the upper edge, nearest the sun, cut the water exactly in the diagonal of the bushel; he therefore instantly pulled out his watch, and observed it was just $19\frac{1}{2}$ minutes past five o'clock in the morning, being the 2d of September, 1793. Being a curious and clever fellow, and knowing the latitude of the place to be $52^{\circ} 6'$ north, he told the Master, required no other dimensions. Now supposing his watch to shew true time, the bushel exactly round, and every where of an equal depth, required the true content; allowing for the sun's semidiameter, refraction, and parallax.

IV. QUESTION (989) by Mr Olinthus Gilbert Gregory, Yaxley.

The sum of all the chords drawn in a semicircle, from one end of the diameter, to the points which divide the circumference into a certain number of equal parts (together with the diameter) is 4297877. Now, if the diameter be 100, what is the number of parts, and the length of each?

V. QUESTION (990) by the Rev. Mr S. Vince, Cambridge.

I should be much obliged to any of your ingenious correspondents for a neat solution of the following set of equations, which have puzzled some of the best mathematicians; viz,

$$x + 2\sqrt{y-2} = 38,$$

$$x + \sqrt{z-2} = 38,$$

$$5y + 2\sqrt{x-2} = 38,$$

VIII. QUESTION (991) by Mr Wm Marriot, Neath, Glamorgan.

A cone whose diameter is twelve, and altitude ten inches, being put into a vessel filled with common rain water, with its base upward, was observed to sink to a point where the area of its section cut parallel to the base, was exactly eighty inches: required the height of the cone.

IX. QUESTION (992) by a Bengal Officer.

To find a theorem that will determine an infinite variety of square integers, in a series of surd solids, whose roots are the arithmetical series 1, 2, 3, 4, 5, 6, &c.

X. QUESTION (993) by the Rev. Mr John Hellins.

If $1 + \frac{1}{2} + \frac{1}{3}$ be put $= A$, $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} = B$, $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} = C$, &c. then shall the arc of 90° be $= A - \frac{1}{4}B + \frac{1}{24}C - \&c.$ Query the demonstration.

XI. QUESTION (994) by James Glenie, Esq;

On a given line as a base, to constitute a triangle such, that the sum of the squares of the other two sides, shall have to their difference, the ratio of 13 to 12; whilst the area of the triangle has to the square of the base a given ratio, suppose that of 1 to 12.

XII. QUESTION (995) by the Rev. Mr S. Vince, Cambridge.

Required the dimensions of a cone, which if suspended by its vertex will vibrate at once in a minute, as it has inches in altitude.

XIII. QUESTION (996) by Amicus.

Mr T. Simpson, in his Algebra, shews how to resolve biquadratic equations, by reducing them to the difference of two complete squares, and says, that the most considerable advantage of this method is, that the value of A in the cubic equation thence resulting, will be commensurate and rational, not only when all the roots of the given equation are commensurate, but when they are irrational, and even impossible. In this advantage, general for all biquadratics having rational coefficients, such as $y^4 + \frac{20}{3}y^3 + 14y^2 - 12y - 51 = 0$, or is it not so? A demonstration is required.

XIV. QUESTION (997) by Capt. Wm Mudge, Royal Artillery.

It having been furnished, that in the practice of artillery, the deflection of the shot from the line in which the gun is laid, chiefly arises from the motion of the gun during the time the shot is passing out of the piece; I desire to be informed what space an eighteen pounder will recoil or fly back, whilst the shot is passing out of the gun; supposing that its weight is 4800lb, that of the carriage 2400lb, the quantity of powder 8lb, the length of the cylinder 108 inches, that of the charge thirteen inches, and the diameter of the bores 5.73 inches, admitting likewise, that the resistance arising from the friction between the platform and carriage, is 3600lb.

XV. or PRIZE QUESTION (998) by Terricola.

Suppose the whole terraqueous globe, taken as a sphere, should be instantaneously turned into a uniform elastic aeriform fluid, whose particles repel one another with a force which is to that with which these of air repel one another, as the density of the one to the density of the other, it will expand itself either to a finite or infinite extent, still preserving the form of a sphere. It is required to determine the force of gravitation tending towards the centre, and also the density, at any given distance from the centre: supposing the mean density of the earth to be 3825 times that of air at the surface of the earth.

* * * The Prizes for the several solutions have been determined by lot as follows: First, for the Prize Question, to Mr Tho. Thompson and Mr John Wright, each 10 Diaries.—2d, for the Prize Enigma, to Miss A. W. Maitland and Miss M. Stanhope, each 8 Diaries.—3d, for the General Answers to the Enigmas, to Miss Betty Boys and Mr Job. Ayres, each 8 Diaries.—4th, for the Replies, Queries, &c, to Mr Jackson and Mr George Cook, each 6 Diaries: all of whom will please to send for them to Stationers-Hall, London; where also correspondents may direct their letters for the Diary, addressed to the Author of the Ladies' Diary; which must be franked or post paid, otherwise they will not be received; and the last of them must be sent before the first of May, but those for the solution of the Prize Enigma and Prize Question before Candlemas Day. And along with all new Questions, Enigmas, Replies, and Charades, must be sent their answers.

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